

Exelon Generation
Quad Cities Generating Station
22710 206th Avenue North
Cordova, IL 61242-9740
Tel 309-654-2241

www.exeloncorp.com

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U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
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Quad Cities Nuclear Power Station, Units 1 and 2
Facility Operating License Nos. DPR-29 and DPR-30
NRC Docket Nos. 50-254 and 50-265

Subject: Quad Cities Station Annual Radiological Environmental Operating Report

In accordance with Quad Cities Technical Specification section 6.9.A.3, we are submitting the 2000 Radiological Environmental Operating Report for Quad Cities Station. This report contains the results of the radiological environmental and meteorological monitoring programs.

Should you have any questions concerning this letter, please contact Mr. W. J. Beck at (309) 654-2241, extension 3609.

Respectfully,



Timothy J. Tulon
Site Vice President
Quad Cities Nuclear Power Station

Attachment: The Quad Cities 2000 Radiological Environmental Operating Report

cc: Regional Administrator – NRC Region III
NRC Senior Resident Inspector – Quad Cities Nuclear Power Station

JE25

Attachment

The Quad Cities 2000 Radiological Environmental Operating Report

QUAD CITIES STATION
ANNUAL RADIOLOGICAL
ENVIRONMENTAL OPERATING
REPORT

2000

APRIL 2001

TABLE OF CONTENTS

	<u>Page</u>
INTRODUCTION	1
SUMMARY	2
1.0 EFFLUENTS	
1.1 Gaseous Effluents to the Atmosphere	3
1.2 Liquids Released to Mississippi River	3
2.0 SOLID RADIOACTIVE WASTE	3
3.0 DOSE TO MAN	
3.1 Gaseous Effluent Pathways	3
3.1.1 Noble Gases	4
3.1.1.1 Gamma Dose Rates	4
3.1.1.2 Beta Air and Skin Rates	4
3.1.2 Radioactive Iodine	4
3.1.2.1 Iodine Concentrations in Air	5
3.1.2.2 Dose to Thyroid	5
3.1.3 Concentrations of Particulates in Air	5
3.2 Liquid Effluent Pathways	5
3.3 Assessment of Dose to Member of Public	5
4.0 SITE METEOROLOGY	6
5.0 ENVIRONMENTAL MONITORING...	6
5.1 Gamma Radiation	6
5.2 Airborne I-131 and Particulate Radioactivity	7
5.3 Aquatic Radioactivity	7
5.4 Milk	8
5.5 Terrestrial Radioactivity	8
5.6 Sample Collections	8
5.7 Program Modifications	8
6.0 ANALYTICAL PROCEDURES	8
7.0 MILCH ANIMALS AND NEAREST LIVESTOCK CENSUS	9
8.0 NEAREST RESIDENCE CENSUS	9
9.0 INTERLABORATORY COMPARISON PROGRAM RESULTS	9
10.0 ERRATA DATA	9

TABLE OF CONTENTS (continued)

	<u>Page</u>
APPENDIX I - DATA TABLES AND FIGURES	I-1
Station Releases	
Table 1.1-1 Gaseous Effluents Summation of all Releases	I-2
Table 1.2-1 Liquid Effluents Summation of all Releases	I-4
Table 2.0-1 Solid Radwaste Annual Report	I-6
Figure 3.1-1 - Figure 3.1-4	
Isodose and Concentration Contours	I-7
Table 3.1-1 Maximum Doses Resulting from Airborne Releases	I-11
Table 3.2-1 Maximum Doses Resulting from Liquid	
Effluents	I-19
Table 3.3-1 10CFR20 Compliance Assessment	I-27
Table 3.4-1 Maximum Doses Resulting from Airborne Releases Based	
on Concurrent Meteorological Data	I-31
Environmental Monitoring	
Figure 5.0-1 Near Fixed Air Sampling Sites and Outer	
Ring TLD Locations.....	I-33
Figure 5.0-2 Inner Ring TLD Locations	I-34
Figure 5.0-3 Milk, Fish, Water and Sediment Locations	I-35
Table 5.0-1 Radiological Environmental Monitoring Locations	I-36
Table 5.0-2 Radiological Environmental Monitoring Program	
Sampling Locations, Sample Collection and Analyses	I-37
Table 5.0-3 - Table 5.0-6	
Radiological Environmental Monitoring Program	
Quarterly Summary.....	I-43
APPENDIX II - METEOROLOGICAL DATA	II-1
APPENDIX III - 2000 REMP SAMPLE RESULTS	III-1
APPENDIX IV - INTERLABORATORY COMPARISON PROGRAM RESULTS.....	IV-1
APPENDIX V - ERRATA DATA (If applicable)...	V-1

INTRODUCTION

Units 1 and 2 of the Quad Cities Station, located near Cordova, Illinois next to the Mississippi River, are 2511 MW_{th} boiling water reactors, similar in design to Dresden Units 2 and 3. The station has been designed to keep releases to the environment at levels below those specified in the regulations.

Liquid effluents from Quad Cities are released to the Mississippi River in controlled batches after radioassay of each batch. Gaseous effluents are released to the atmosphere after delay to permit decay of short-lived (noble) gases. Releases to the atmosphere are calculated on the basis of analyses of grab samples of noble gases as well as continuously collected composite samples of iodine and particulate activity sampled during the course of the year. The results of effluent analyses are summarized on a monthly basis and reported to the Nuclear Regulatory Commission as required per Technical Specifications. Airborne concentrations of noble gases, I-131, and particulate radioactivity in offsite areas are calculated using isotopic composition of effluent and meteorological data.

Environmental monitoring is conducted by sampling at indicator and control (background) locations in the vicinity of the Quad Cities station to measure changes in radiation or radioactivity levels that may be attributable to station operations. If significant changes attributable to Quad Cities are measured, these changes are correlated with effluent releases. External gamma radiation exposure from noble gases and internal dose from I-131 in milk are the most critical pathways at this site; however, an environmental monitoring program is conducted which includes these and other pathways.

SUMMARY

Calculations based gaseous and liquid effluents and hydrogen addition activities indicate that public dose due to radioactive material attributable to Quad Cities Station during the period does not exceed regulatory or Offsite Dose Calculation Manual (ODCM) limits.

The Total Effective Dose Equivalent (TEDE) due to licensed activities at Quad Cities Station calculated for the maximally-exposed individual for the period is 9.77 mrem. The annual limit on TEDE is 100 mrem. This value is largely dominated by the direct radiation constituent from the Unit 1 and Unit 2 turbines (9.73 mrem). The balance of the calculated maximum dose (0.04 mrem) is due to exposure from radionuclides released from the Station in liquid and gaseous effluents.

The assessment of radiation doses are performed in accordance with the ODCM. The results of these analyses confirm that the station is operating in compliance with 10CFR50 Appendix I, 10CFR20 and 40CFR190.

1.0 EFFLUENTS

1.1 Gaseous Effluents to the Atmosphere

Measured concentrations and isotopic composition of noble gases, radioiodine, and particulate radioactivity released to the atmosphere during the year, are listed in Table 1.1-1. A total of $1.77\text{E}+02$ curies of fission and activation gases was released with a maximum quarterly average release rate of $6.39\text{E}+00$ $\mu\text{Ci/sec}$.

A total of $5.21\text{E}-03$ curies of I-131 was released during the year with a maximum quarterly average release rate of $1.92\text{E}-04$ $\mu\text{Ci/sec}$.

A total of $1.06\text{E}-02$ curies of beta-gamma emitters was released as airborne particulate matter with a maximum quarterly average release rate of $6.10\text{E}-04$ $\mu\text{Ci/sec}$. A total of $2.72\text{E}-05$ curies of alpha-emitting radionuclides was released.

A total of $1.12\text{E}+02$ curies of tritium was released with a maximum quarterly average release rate of $4.25\text{E}+00$ $\mu\text{Ci/sec}$.

1.2 Liquids Released to the Mississippi River

A total of $7.80\text{E}+06$ liters of radioactive liquid waste (prior to dilution) containing $6.78\text{E}-03$ curies (excluding tritium, noble gases, and alpha) was discharged from the station. These wastes were released at a maximum quarterly average concentration of $2.05\text{E}-10$ $\mu\text{Ci/ml}$. No alpha radioactivity was detected in the liquid waste. A total of $3.54\text{E}+01$ curies of tritium was released at a maximum quarterly average concentration of $8.81\text{E}-07$ $\mu\text{Ci/ml}$. Quarterly release estimates and principal radionuclides in liquid effluents are given in Table 1.2-1.

2.0 SOLID RADIOACTIVE WASTE

Solid radioactive wastes were shipped to Barnwell, South Carolina; Erwin, Tennessee, Oak Ridge, Tennessee, Gainesville, Florida and Richland, WA. For further detail, refer to the Quad Cities 2000 Effluent Report.

3.0 DOSE TO MAN

3.1 Gaseous Effluent Pathways

Table 3.1-1 summarizes the doses resulting from releases of airborne radioactivity via the different exposure pathways.

3.1.1 Noble Gases

3.1.1.1 Gamma Dose Rates

Offsite gamma air and total body doses are shown in Table 3.1-1 and were calculated based on measured release rates, isotopic composition of the noble gases, and average meteorological data for the period. Doses based on concurrent meteorological data are shown in Table 3.4-1. Isodose contours based on concurrent meteorological data for gamma dose are shown in Figure 3.1-1. Based on measured effluents and average meteorological data, the maximum total dose to an individual would be $2.55\text{E-}03$ mrem for the year (Table 3.1-1), with an occupancy or shielding factor of 0.7 included. The maximum total body dose based on measured effluents and concurrent meteorological data would be $1.46\text{E-}02$ mrem (Table 3.4-1). The maximum gamma air dose was $3.39\text{E-}03$ mrad (Table 3.1-1) based on measured effluents and average meteorological data and $7.16\text{E-}03$ mrad based on concurrent meteorological data (Table 3.4-1).

3.1.1.2 Beta Air and Skin Dose Rates

The range of beta particles in air is relatively small (on the order of a few meters or less); consequently, plumes of gaseous effluents may be considered "infinite" for purpose of calculating the dose from beta radiation incident on the skin. However, the actual dose to sensitive skin tissues is difficult to calculate due to the effect of the beta particle energies, thickness of inert skin and clothing covering sensitive tissues. For purposes of this report the skin is taken to have a thickness of 7.0 mg/cm^2 and an occupancy factor of 1.0 is used. The skin dose from beta and gamma radiation for the year was $2.82\text{E-}03$ mrem (Table 3.1-1) and $1.82\text{E-}02$ mrem based on concurrent meteorological data (Table 3.4-1).

The air concentrations of radioactive noble gases at the offsite receptor locations are given in Figure 3.1-2. The maximum offsite beta air dose for the year was $3.23\text{E-}04$ mrad (Table 3.1-1) and $1.44\text{E-}03$ mrad based on concurrent meteorological data (Table 3.4-1).

3.1.2 Radioactive Iodine

The human thyroid exhibits a significant capacity to concentrate ingested or inhaled iodine. The radioiodine, I-131, released during routine operation of the station, may be made available to a person resulting in a dose to the thyroid. The principal pathway of interest for this radionuclide is ingestion of radioiodine in milk.

3.1.2.1 Iodine Concentrations in Air

The calculated concentration contours for iodine in air are shown in Figure 3.1-3. These calculations include an iodine cloud depletion factor which accounts for the phenomenon of elemental iodine deposition on the ground. The maximum offsite concentration is estimated to be $1.88\text{E-}04 \text{ pCi/m}^3$ for the year (Table 3.4-1).

3.1.2.2 Dose to Thyroid

The hypothetical thyroid dose to a maximum exposed individual living near the station via ingestion of milk was calculated. The radionuclide considered was I-131 and the source of milk was taken to be the nearest dairy farm with the cows pastured from May through October. The maximum thyroid dose was $9.37\text{E-}02 \text{ mrem (child)}$ {Table 3.1-1}.

3.1.3 Concentrations of Particulates in Air

Concentration contours of radioactive airborne particulates are shown in Figure 3.1-4. The maximum offsite average level is estimated to be $5.40\text{E-}04 \text{ pCi/m}^3$ (Table 3.4-1).

3.2 Liquid Effluent Pathways

The three principal pathways through the aquatic environment for potential doses to man from liquid waste are ingestion of potable water, eating aquatic foods, and exposure while on the shoreline. Not all of these pathways are significant or applicable at a given time but a reasonable approximation of the dose can be made by adjusting the dose formula for season of the year or type and degree of use of the aquatic environment. NRC developed equations* were used to calculate the doses to the whole body, lower GI tracts, thyroid, bone, skin; specific parameters for use in the equations are given in the ComEd Offsite Dose Calculation Manual. The maximum whole body dose for the year was $2.07\text{E-}04 \text{ mrem}$ and no organ dose exceeded $2.96\text{E-}04 \text{ mrem}$ (Table 3.2-1 [child]).

3.3 Assessment of Dose to Member of Public

During the period January to December, 1999, Quad Cities Station did not exceed the following limits as shown in Table 3.1-1 and Table 3.2-1 (based on yearly average meteorological data), as shown in Figure 3.1-1 (based on concurrent meteorological data), and as shown in Table 3.3-1:

- The RETS limits on dose or dose commitment to an individual due to radioactive materials in liquid effluents from each reactor unit (3 mrem to the whole body or 10 mrem to any organ during any calendar quarter;

* Nuclear Regulatory Commission, Regulatory Guide 1.109 (Rev. 1).

6 mrem to the whole body or 20 mrem to any organ during any calendar year).

- The RETS limits on air dose in noble gases released in gaseous effluents to a member of the public from each reactor unit (5 mrad for gamma radiation or 10 mrad for beta radiation during any calendar quarter; 10 mrads for gamma radiation or 20 mrad for beta radiation during any calendar year).
- The RETS limits on dose to any individual due to iodine-131, iodine-133, tritium, and radionuclides in particulate form with half-lives greater than eight days in gaseous effluents released from each reactor unit (7.5 mrem to any organ during any calendar quarter; 15 mrem to any organ during any calendar year).
- The RETS 40CFR190 limits for dose due to radioactive liquid and gaseous effluents to the whole body or any organ (25 mrem during the calendar year) and to the thyroid (75 mrem during the calendar year).
- The 10CFR20 limit on Total Effective Dose Equivalent to individual members of the public (100 mrem) during any calendar year.

4.0 SITE METEOROLOGY

A summary of the site meteorological measurements taken during each quarter of the year is given in Appendix II. The data are presented as cumulative joint frequency distributions of the wind direction for the 296' level and wind speed class by atmospheric stability class determined from the temperature difference between the 296' and 33' levels. Average data recovery for all measurements on the tower was 99.3% for 2000 (Table 3.4-1).

5.0 ENVIRONMENTAL MONITORING

Table 5.0-1 provides an outline of the Radiological Environmental Monitoring Program (REMP) as required in current Technical Specifications. Table 5.0-2 identifies the sampling locations, sample collections and analyses for each location. Tables 5.0-3 to 5.0-6 summarize data for the year. A detailed listing of all data is presented in Appendix III.

Specific findings for various environmental media are discussed below.

5.1 Gamma Radiation

External radiation dose from onsite sources and noble gases released to the atmosphere was measured using $\text{CaSO}_4:\text{Tm}$ thermoluminescent dosimeters (TLDs). A comparison of the TLD results for control stations with onsite and offsite indicator stations is included in Table 4.0 of Appendix III. The quarterly average external radiation dose for the year was 15.8 mR at the indicator locations and 15.4 mR at the

control locations. TLD results are listed in Table 4.0 of Appendix III and locations are shown in Figure 5.0-1 and 5.0-2.

Quarterly average of external radiation dose (including background) at indicator air sampling locations averaged 15.2 ± 0.9 mR and was similar to levels measured in 1986 (13.5 mR), 1987 (14.1 mR), 1988 (13.4 mR), 1989 (14.5 mR), 1990 (14.6 mR), 1991 (15.8 mR), 1992 (14.7 mR) and 1993 (14.1 mR), 1994 (14.1 mR), 1995 (15.0 mR), 1996 (14.8 mR), 1997 (13.5 mR), 1998 (15.1 mR) and 1999 (14.9 mR). The differences are not statistically significant.

5.2 Airborne I-131 and Particulate Radioactivity

Locations of the air samplers are shown in Figure 5.0-1. Airborne I-131 remained below the LLD of 0.07 pCi/m^3 throughout the year.

Gross beta concentrations ranged from 0.011 to 0.056 pCi/m^3 and averaged 0.028 pCi/m^3 and was similar to overall average levels in 1985 (0.024 pCi/m^3), 1986 (0.025 pCi/m^3), except for the period from May 17 through June 7 when it was influenced by the nuclear reactor accident at Chernobyl), 1987 (0.023 pCi/m^3), 1988 (0.030 pCi/m^3), 1989 (0.028 pCi/m^3), 1990 (0.020 pCi/m^3), 1991 (0.022 pCi/m^3), 1992 (0.021 pCi/m^3), 1993 (0.021 pCi/m^3), 1994 (0.022 pCi/m^3), 1995 (0.022 pCi/m^3), 1996 (0.022 pCi/m^3), 1997 (0.022 pCi/m^3), 1998 (0.023 pCi/m^3) and 1999 (0.027 pCi/m^3).

No radioactivity attributable to station operation was detected in any sample.

5.3 Aquatic Radioactivity

Well water was collected quarterly from one nearsite well (Q-35) and one farsite well (Q-36) and was analyzed for tritium and gamma-emitting nuclides. All nuclides remained below the limits of detection for the year.

Weekly surface water samples were from upstream (Q-34) and downstream (Q-33) from the station on the Mississippi River were composited monthly and analyzed for gamma-emitting nuclides and gross beta activity. Quarterly composites were analyzed for tritium.

Cs-134 and Cs-137 concentrations were below the LLD of 15 pCi/L and 18 pCi/L, respectively, in all samples.

Gross beta concentrations at Q-33 averaged 3.3 pCi/L with a range of 2.0-5.1 pCi/L; concentrations at Q-34 averaged 3.4 pCi/L with a range of 2.5-4.4 pCi/L.

Tritium concentrations remained below the LLD of 200 pCi/L in all samples.

Levels of gamma radioactivity in fish were measured and found in all cases to be below the lower limit of detection for the program. One upstream and one downstream sediment sample was analyzed by gamma spectrometry. All gamma-emitters were below the limits of detection indicating that no radioactivity was found due to station operation.

Water, sediment, and fish sample locations are shown in Figure 5.0-3.

5.4 Milk

Milk samples from the Bill Stanley Farm (located 3.5 miles east northeast of the station) were collected monthly from November through April and weekly from May through October and analyzed for I-131.

I-131 remained below the detection limits of 5.0 pCi/L during the non-grazing period (November through April) and 0.5 pCi/L during the grazing period (May through October).

Milk sample locations are shown in Figure 5.0-3.

5.5 Terrestrial Radioactivity

Vegetables were collected in the third quarter and analyzed for gamma-emitting nuclides. In addition, broad leaf vegetables were analyzed for I-131. All nuclides were below the limits of detection, indicating there was no measurable amount of radioactivity attributable to station releases.

5.6 Sample Collections

All samples were collected as scheduled except those listed in the Listing of Missed Samples, Appendix III.

5.7 Program Modifications

There were no changes to the program in 2000.

6.0 ANALYTICAL PROCEDURES

Procedures used during the period covered in this report remain unchanged. A summary of the procedures is given in Appendix VI of the 1993 Annual Radiological Environmental Operating Report.

7.0 MILCH ANIMALS AND NEAREST LIVESTOCK CENSUS

A census of milch animals and nearest livestock was conducted around the station by G. Kreuder. The survey was conducted on August 2, 2000.

Milch animal and nearest cattle census results are presented on pages 36 and 37 of Appendix III.

8.0 NEAREST RESIDENCE CENSUS

A census of the nearest residences within a 6.2-mile radius was conducted on August 2, 2000 by G. Kreuder.

The nearest residence census results are presented on page 38 of Appendix III.

9.0 INTERLABORATORY COMPARISON PROGRAM RESULTS

Teledyne's Interlaboratory Comparison Program Results are presented in Appendix IV.

10.0 ERRATA DATA

There is no errata data for 2000.

QUAD CITIES

APPENDIX I DATA TABLES AND FIGURES

Table 1.1-1

QCRP 6400-02
UNIT 1(2)
REVISION 1

ATTACHMENT A (Page 1 of 5)

EFFLUENT & WASTE DISPOSABLE SEMI-ANNUAL REPORT

GASEOUS EFFLUENTS - SUMMATION OF ALL RELEASES

Period: January through June

2000

A. FISSION & ACTIVATION GASES	UNIT	FIRST QUARTER	SECOND QUARTER	Est. Total Error %
1. Total Release	Ci	3.41E+01	4.47E+01	12.4
2. Average release rate for the period	μCi/sec	4.34E00	5.69E00	
3. *Percent of ODCM limit Chimney & Stack	%	1.26E-02	1.72E-02	
		4.28E-04	8.17E-04	
B. IODINE				
1. Total Iodine-131	Ci	1.49E-03	8.80E-04	40.0
2. Average release rate for the period	μCi/sec	1.90E-04	1.12E-04	
C. PARTICULATES				
1. Particulates with half-lives >8 days	Ci	1.74E-03	9.98E-04	30.1
2. Average release rate for the period	μCi/sec	2.21E-04	1.27E-04	
3. Gross alpha radioactivity	Ci	7.58E-06	4.36E-06	
D. TRITIUM				
1. Total Release	Ci	2.59E+01	2.38E+01	8.0
2. Average release rate for the period	μCi/sec	3.29E00	3.03E00	
E. Iodine 131 & 133, Tritium & Particulate				
1. Percent of ODCM limit Chimney & Stack	%	9.71E-02	2.99E-01	

*NOBLE GAS GAMMA/NOBLE GAS BETA DOSE LIMITS

ATTACHMENT A (Page 1 of 5)

EFFLUENT & WASTE DISPOSABLE SEMI-ANNUAL REPORT

GASEOUS EFFLUENTS - SUMMATION OF ALL RELEASES

2000

Period: July through December

A. FISSION & ACTIVATION GASES	UNIT	THIRD QUARTER	FOURTH QUARTER	Est.Total Error %
1. Total Release	Ci	5.08E+01	4.69E+01	12.4
2. Average release rate for the period	μCi/sec	6.39E00	5.90E00	
3. *Percent of ODCM limit Chimney & Stack	%	2.00E-02	1.80E-02	
		9.36E-04	8.52E-04	

B. IODINE				
1. Total Iodine-131	Ci	1.59E-03	1.25E-03	40.0
2. Average release rate for the period	μCi/sec	1.92E-04	1.57E-04	

C. PARTICULATES				
1. Particulates with half-lives >8 days	Ci	3.01E-03	4.85E-03	30.1
2. Average release rate for the period	μCi/sec	3.79E-04	6.10E-04	
3. Gross alpha radioactivity	Ci	9.97E-06	5.32E-06	

D. TRITIUM				
1. Total Release	Ci	3.38E+01	2.83E+01	8.0
2. Average release rate for the period	μCi/sec	4.25E00	3.56E00	
E.Iodine 131 & 133, Tritium & Particulate				
1. Percent of ODCM limit Chimney & Stack	%	5.26E-01	3.29E-01	

*NOBLE GAS GAMMA/NOBLE GAS BETA DOSE LIMITS

Table 1.2-1

QCRP 6400-02
UNIT 1(2)
REVISION 1

ATTACHMENT A (Page 4 of 5)

EFFLUENT & WASTE DISPOSABLE SEMI-ANNUAL REPORT
LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES

		UNIT	THIRD QUARTER	FOURTH QUARTER	Est. Total Error %
A. FISSION & ACTIVATION GASES					
1. Total Release (not including tritium, gases & alpha)		Ci	1.87E-03	1.08E-03	5.6
2. Average diluted concentration during batch discharges for the period		µCi/mL	8.95E-11	5.20E-11	
3. Percent of applicable limit*	WB %		5.18E-03	4.71E-03	
	O %		2.21E-03	2.52E-03	
4. Maximum diluted concentration during batch discharges		µCi/mL	3.31E-10	5.13E-10	
B. TRITIUM					
1. Total Release		Ci	1.26E+01	9.71E00	4.0
2. Average diluted concentration during batch discharges for the period		µCi/mL	6.03E-07	4.41E-07	
3. Percent of applicable limit		%	2.01E-02	1.47E-02	
C. DISSOLVED & ENTRAINED GASES					
1. Total Release		Ci	5.31E-05	<LLD	5.6
2. Average diluted concentration during batch discharges for the period		µCi/mL	2.54E-12	<LLD	
3. Percent of applicable limit		%	1.27E-06	NA	
D. GROSS ALPHA ACTIVITY					
1. Total Release		Ci	<LLD	<LLD	14.5
2. Average diluted concentration during batch discharges for the period		µCi/mL	<LLD	<LLD	
E. VOLUME OF WASTE RELEASED (prior to dilution)		Liters	2.07E+06	2.75E+06	
F. VOLUME OF DILUTION WATER USED DURING BATCH DISCHARGES		Liters	2.09E+10	1.98E+10	
G. TOTAL VOLUME OF DILUTION WATER USED DURING PERIOD (quarter)		Liters	4.94E+11	3.39E+11	

*Whole Body/Organ (ODCM)

Table 1.2-1 (continued)

QCRP 6400-02
UNIT 1 (2)
REVISION 1

ATTACHMENT A (Page 4 of 5)

EFFLUENT & WASTE DISPOSABLE SEMI-ANNUAL REPORT
LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES

		FIRST QUARTER	SECOND QUARTER	Est. Total Error %
A. FISSION & ACTIVATION GASES				
1. Total Release (not including tritium, gases & alpha)	Ci	1.54E-03	2.29E-03	5.6
2. Average diluted concentration during batch discharges for the period	µCi/mL	2.05E-10	1.89E-10	
3. Percent of applicable limit*	WB % O %	1.51E-03 6.38E-04	2.47E-03 1.06E-03	
4. Maximum diluted concentration during batch discharges	µCi/mL	5.34E-10	1.53E-10	
B. TRITIUM				
1. Total Release	Ci	6.10E00	6.99E00	4.0
2. Average diluted concentration during batch discharges for the period	µCi/mL	8.11E-07	5.78E-07	
3. Percent of applicable limit	%	2.70E-02	1.93E-02	
C. DISSOLVED & ENTRAINED GASES				
1. Total Release	Ci	1.49E-04	6.38E-05	5.6
2. Average diluted concentration during batch discharges for the period	µCi/mL	1.98E-11	5.27E-12	
3. Percent of applicable limit	%	9.91E-06	2.64E-06	
D. GROSS ALPHA ACTIVITY				
1. Total Release	Ci	<LLD	<LLD	14.8
2. Average diluted concentration during batch discharges for the period	µCi/mL	<LLD	<LLD	
E. VOLUME OF WASTE RELEASED (prior to dilution)	Liters	1.68E+06	1.30E+06	
F. VOLUME OF DILUTION WATER USED DURING BATCH DISCHARGES	Liters	7.52E+09	1.21E+10	
G. TOTAL VOLUME OF DILUTION WATER USED DURING PERIOD (quarter)	Liters	2.78E+11	4.24E+11	

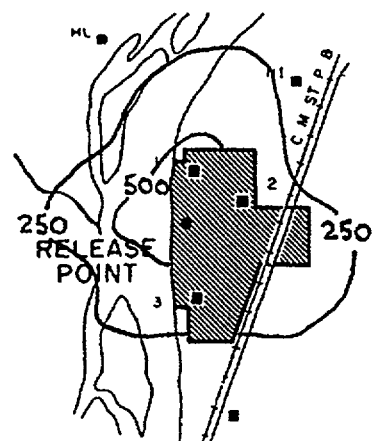
*Whole Body/Organ (ODCM)

TABLE 2.0-1

Table 2.0-1 has been deliberately deleted. For Solid Waste Disposal detail, refer to Quad Cities 2000 Effluent Report.

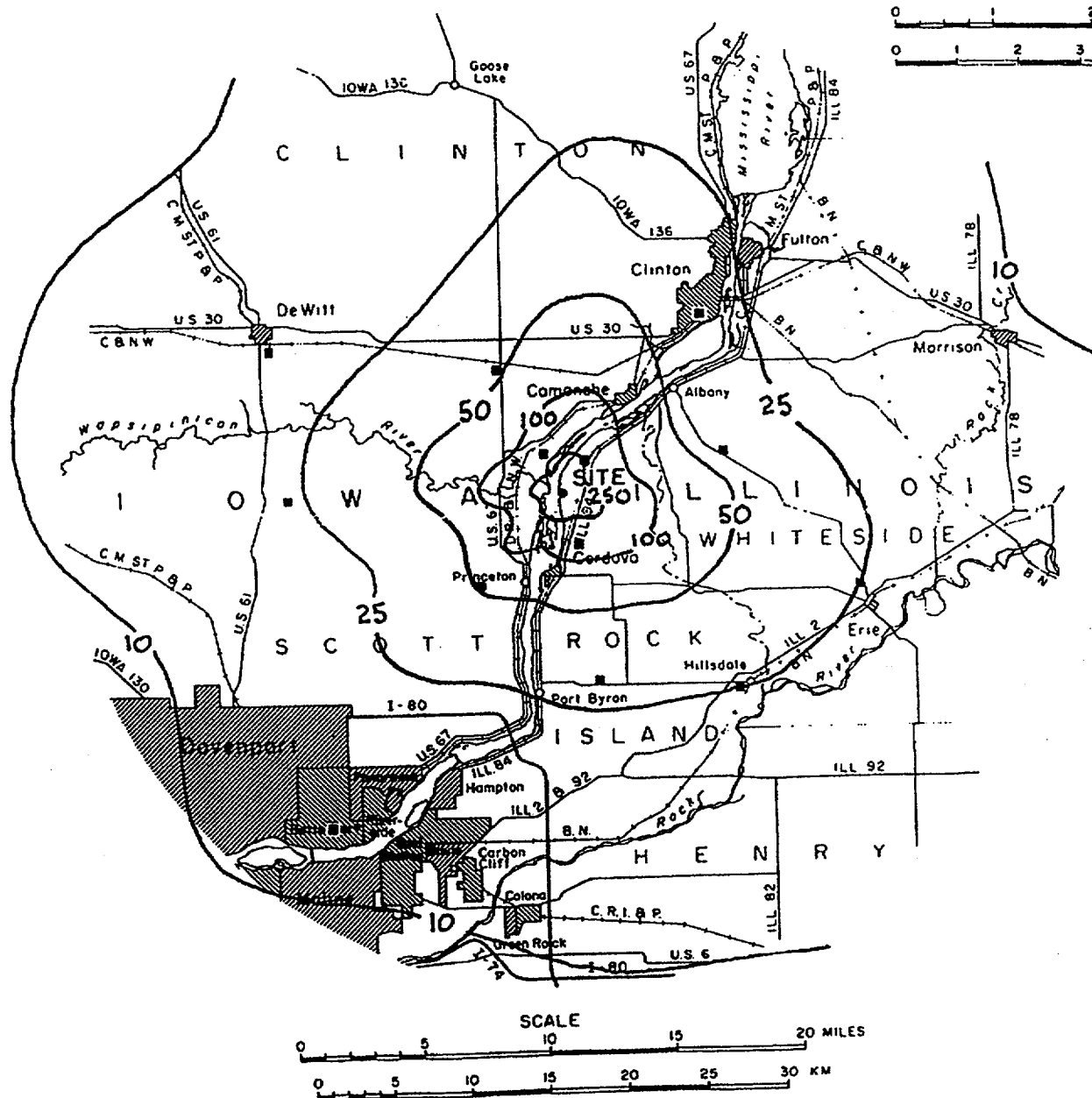
Estimated Cumulative Gamma Dose (in mrem)
from the Quad Cities Station for the period
January-December 2000

Small figure - multiply by 10^{-5}
Large figure - multiply by 10^{-5}



0 1 2 MILES

0 1 2 3 KM



Estimated Total Concentrations (in pCi/m³)
of Noble Gases from the Quad Cities Station
for the period January-December 2000

Small figure - multiply by 10^{-2}
Large figure - multiply by 10^{-3}



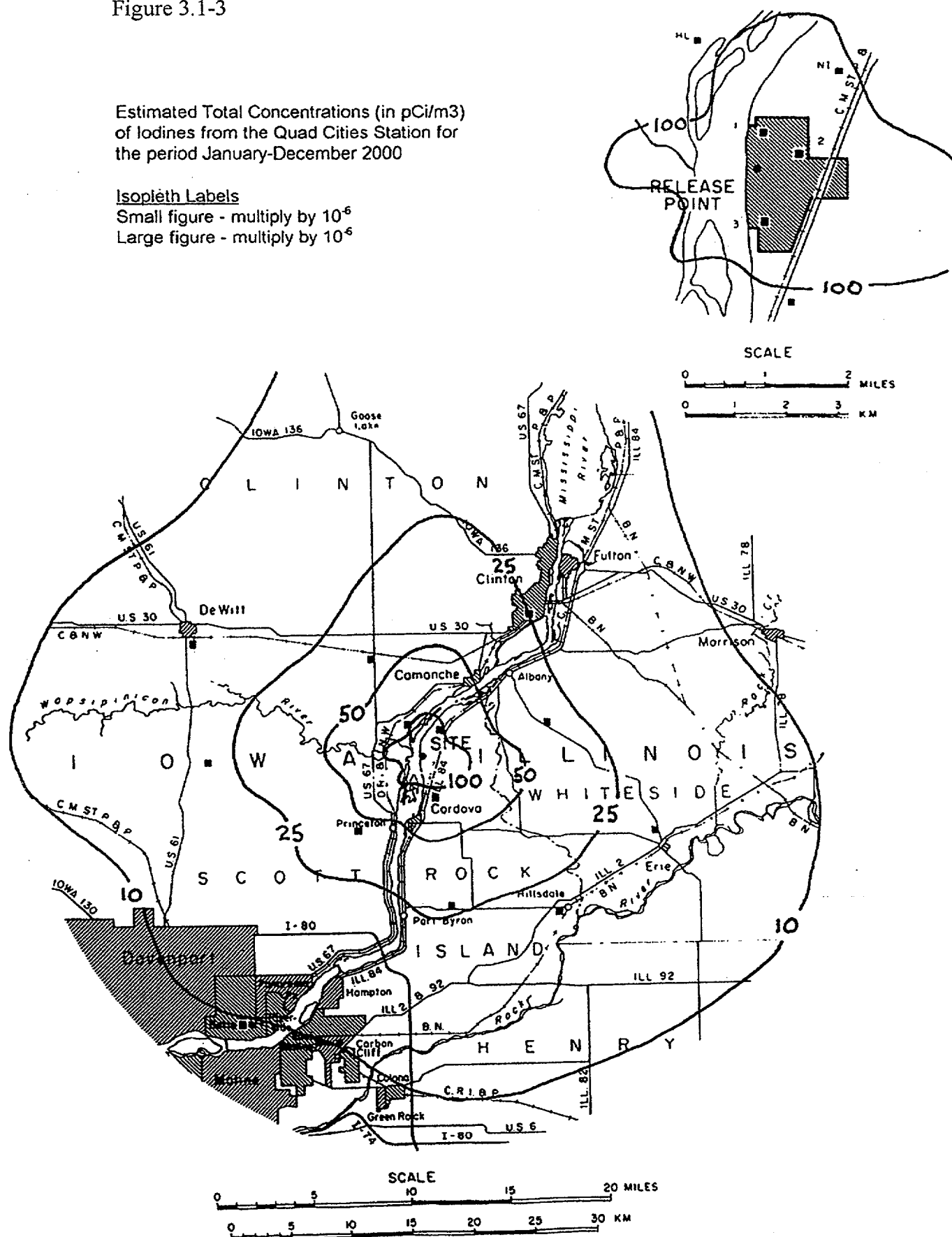
Figure 3.1-3

Estimated Total Concentrations (in pCi/m³)
of Iodines from the Quad Cities Station for
the period January-December 2000

Isopleth Labels

Small figure - multiply by 10⁻⁶

Large figure - multiply by 10⁻⁶



Estimated Total Concentrations (in pCi/m³)
of Particulates from the Quad Cities Station
for the period January-December 2000

Small figure - multiply by 10^{-6}
Large figure - multiply by 10^{-5}



Table 3.1-1

QUAD CITIES STATION UNIT ONE

ACTUAL 2000
 MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES
 PERIOD OF RELEASE - 01/01/00 TO 12/31/00 CALCULATED 02/22/01
 INFANT RECEPTOR

TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR	4.35E-04	4.86E-04	4.56E-04	2.43E-04	1.62E-03
(MRAD)	(N)	(N)	(N)	(N)	(N)
BETA AIR	4.06E-05	4.64E-05	4.22E-05	2.49E-05	1.54E-04
(MRAD)	(ESE)	(ESE)	(ESE)	(ESE)	(ESE)
TOT. BODY	3.28E-04	3.67E-04	3.44E-04	1.84E-04	1.22E-03
(MREM)	(N)	(N)	(N)	(N)	(N)
SKIN	3.61E-04	4.06E-04	3.79E-04	2.04E-04	1.35E-03
(MREM)	(NNE)	(NNE)	(NNE)	(NNE)	(NNE)
ORGAN	3.71E-03	4.92E-03	7.19E-03	8.69E-03	2.45E-02
(MREM)	(ESE)	(ESE)	(ESE)	(ESE)	(ESE)

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COMPLIANCE STATUS - 10CFR 50 APP. I
 INFANT RECEPTOR

----- % OF APP I. -----

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP. I
GAMMA AIR (MRAD)	5.0	0.01	0.01	0.01	0.00	10.0	0.02
BETA AIR (MRAD)	10.0	0.00	0.00	0.00	0.00	20.0	0.00
TOT. BODY (MREM)	2.5	0.01	0.01	0.01	0.01	5.0	0.02
SKIN (MREM)	7.5	0.00	0.01	0.01	0.00	15.0	0.01
ORGAN (MREM)	7.5	0.05	0.07	0.10	0.12	15.0	0.16

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RESULTS BASED UPON: ODCM ANNEX REVISION 1.8 JUNE 1996
 ODCM SOFTWARE VERSION 1.1 January 1995
 ODCM DATABASE VERSION 1.1 January 1995

Table 3.1-1 (continued)

QUAD CITIES STATION UNIT ONE

ACTUAL 2000
 MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES
 PERIOD OF RELEASE - 01/01/00 TO 12/31/00 CALCULATED 02/22/01
 CHILD RECEPTOR

TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR	4.35E-04	4.86E-04	4.56E-04	2.43E-04	1.62E-03
(MRAD)	(N)	(N)	(N)	(N)	(N)
BETA AIR	4.06E-05	4.64E-05	4.22E-05	2.49E-05	1.54E-04
(MRAD)	(ESE)	(ESE)	(ESE)	(ESE)	(ESE)
TOT. BODY	3.28E-04	3.67E-04	3.44E-04	1.84E-04	1.22E-03
(MREM)	(N)	(N)	(N)	(N)	(N)
SKIN	3.61E-04	4.06E-04	3.79E-04	2.04E-04	1.35E-03
(MREM)	(NNE)	(NNE)	(NNE)	(NNE)	(NNE)
ORGAN	3.07E-03	1.08E-02	1.88E-02	1.20E-02	4.46E-02
(MREM)	(ESE)	(ESE)	(ESE)	(ESE)	(ESE)

THYROID THYROID THYROID THYROID THYROID
 THIS IS A REPORT FOR THE CALENDAR YEAR 2000

COMPLIANCE STATUS - 10CFR 50 APP. I
 CHILD RECEPTOR

----- % OF APP I. -----

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP. I
GAMMA AIR (MRAD)	5.0	0.01	0.01	0.01	0.00	10.0	0.02
BETA AIR (MRAD)	10.0	0.00	0.00	0.00	0.00	20.0	0.00
TOT. BODY (MREM)	2.5	0.01	0.01	0.01	0.01	5.0	0.02
SKIN (MREM)	7.5	0.00	0.01	0.01	0.00	15.0	0.01
ORGAN (MREM)	7.5	0.04	0.14	0.25	0.16	15.0	0.30

THYROID THYROID THYROID THYROID THYROID

RESULTS BASED UPON: ODCM ANNEX REVISION 1.8 JUNE 1996
 ODCM SOFTWARE VERSION 1.1 January 1995
 ODCM DATABASE VERSION 1.1 January 1995

Table 3.1-1 (continued)

QUAD CITIES STATION UNIT ONE

ACTUAL 2000
 MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES
 PERIOD OF RELEASE - 01/01/00 TO 12/31/00 CALCULATED 02/22/01
 TEENAGER RECEPTOR

TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR (MRAD)	4.35E-04 (N)	4.86E-04 (N)	4.56E-04 (N)	2.43E-04 (N)	1.62E-03 (N)
BETA AIR (MRAD)	4.06E-05 (ESE)	4.64E-05 (ESE)	4.22E-05 (ESE)	2.49E-05 (ESE)	1.54E-04 (ESE)
TOT. BODY (MREM)	3.28E-04 (N)	3.67E-04 (N)	3.44E-04 (N)	1.84E-04 (N)	1.22E-03 (N)
SKIN (MREM)	3.61E-04 (NNE)	4.06E-04 (NNE)	3.79E-04 (NNE)	2.04E-04 (NNE)	1.35E-03 (NNE)
ORGAN (MREM)	2.29E-03 (ESE)	7.16E-03 (ESE)	1.22E-02 (ESE)	8.88E-03 (ESE)	3.06E-02 (ESE)

THIS IS A REPORT FOR THE CALENDAR YEAR 2000

COMPLIANCE STATUS - 10CFR 50 APP. I
 TEENAGER RECEPTOR

----- % OF APP I. -----

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP. I
GAMMA AIR (MRAD)	5.0	0.01	0.01	0.01	0.00	10.0	0.02
BETA AIR (MRAD)	10.0	0.00	0.00	0.00	0.00	20.0	0.00
TOT. BODY (MREM)	2.5	0.01	0.01	0.01	0.01	5.0	0.02
SKIN (MREM)	7.5	0.00	0.01	0.01	0.00	15.0	0.01
ORGAN (MREM)	7.5	0.03	0.10	0.16	0.12	15.0	0.20

THYROID THYROID THYROID THYROID THYROID

RESULTS BASED UPON: ODCM ANNEX REVISION 1.8 JUNE 1996
 ODCM SOFTWARE VERSION 1.1 January 1995
 ODCM DATABASE VERSION 1.1 January 1995

Table 3.1-1 (continued)

QUAD CITIES STATION UNIT ONE

ACTUAL 2000
 MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES
 PERIOD OF RELEASE - 01/01/00 TO 12/31/00 CALCULATED 02/22/01
 ADULT RECEPTOR

TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR	4.35E-04	4.86E-04	4.56E-04	2.43E-04	1.62E-03
(MRAD)	(N)	(N)	(N)	(N)	(N)
BETA AIR	4.06E-05	4.64E-05	4.22E-05	2.49E-05	1.54E-04
(MRAD)	(ESE)	(ESE)	(ESE)	(ESE)	(ESE)
TOT. BODY	3.28E-04	3.67E-04	3.44E-04	1.84E-04	1.22E-03
(MREM)	(N)	(N)	(N)	(N)	(N)
SKIN	3.61E-04	4.06E-04	3.79E-04	2.04E-04	1.35E-03
(MREM)	(NNE)	(NNE)	(NNE)	(NNE)	(NNE)
ORGAN	2.20E-03	6.51E-03	1.10E-02	8.41E-03	2.81E-02
(MREM)	(ESE)	(ESE)	(ESE)	(ESE)	(ESE)

THYROID THYROID THYROID THYROID THYROID
 THIS IS A REPORT FOR THE CALENDAR YEAR 2000

COMPLIANCE STATUS - 10CFR 50 APP. I
 ADULT RECEPTOR

----- % OF APP I. -----

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP. I
GAMMA AIR (MRAD)	5.0	0.01	0.01	0.01	0.00	10.0	0.02
BETA AIR (MRAD)	10.0	0.00	0.00	0.00	0.00	20.0	0.00
TOT. BODY (MREM)	2.5	0.01	0.01	0.01	0.01	5.0	0.02
SKIN (MREM)	7.5	0.00	0.01	0.01	0.00	15.0	0.01
ORGAN (MREM)	7.5	0.03	0.09	0.15	0.11	15.0	0.19

THYROID THYROID THYROID THYROID THYROID

RESULTS BASED UPON: ODCM ANNEX REVISION 1.8 JUNE 1996
 ODCM SOFTWARE VERSION 1.1 January 1995
 ODCM DATABASE VERSION 1.1 January 1995

Table 3.1-1 (continued)

QUAD CITIES STATION UNIT TWO

ACTUAL 2000
 MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES
 PERIOD OF RELEASE - 01/01/00 TO 12/31/00 CALCULATED 02/22/01
 INFANT RECEPTOR

TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR	1.94E-04	3.75E-04	5.44E-04	6.55E-04	1.77E-03
(MRAD)	(N)	(N)	(N)	(N)	(N)
BETA AIR	2.22E-05	3.53E-05	5.14E-05	6.03E-05	1.69E-04
(MRAD)	(ESE)	(ESE)	(ESE)	(ESE)	(ESE)
TOT. BODY	1.46E-04	2.83E-04	4.10E-04	4.95E-04	1.33E-03
(MREM)	(N)	(N)	(N)	(N)	(N)
SKIN	1.62E-04	3.13E-04	4.53E-04	5.45E-04	1.47E-03
(MREM)	(NNE)	(NNE)	(NNE)	(NNE)	(NNE)
ORGAN	4.74E-03	5.06E-03	9.13E-03	9.47E-03	2.84E-02
(MREM)	(ESE)	(ESE)	(ESE)	(ESE)	(ESE)

THYROID THYROID THYROID THYROID THYROID
 THIS IS A REPORT FOR THE CALENDAR YEAR 2000

COMPLIANCE STATUS - 10CFR 50 APP. I
 INFANT RECEPTOR

----- % OF APP I. -----

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP. I
GAMMA AIR (MRAD)	5.0	0.00	0.01	0.01	0.01	10.0	0.02
BETA AIR (MRAD)	10.0	0.00	0.00	0.00	0.00	20.0	0.00
TOT. BODY (MREM)	2.5	0.01	0.01	0.02	0.02	5.0	0.03
SKIN (MREM)	7.5	0.00	0.00	0.01	0.01	15.0	0.01
ORGAN (MREM)	7.5	0.06	0.07	0.12	0.13	15.0	0.19

THYROID THYROID THYROID THYROID THYROID

RESULTS BASED UPON: ODCM ANNEX REVISION 1.8 JUNE 1996
 ODCM SOFTWARE VERSION 1.1 January 1995
 ODCM DATABASE VERSION 1.1 January 1995

Table 3.1-1 (continued)

QUAD CITIES STATION UNIT TWO

ACTUAL 2000
 MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES
 PERIOD OF RELEASE - 01/01/00 TO 12/31/00 CALCULATED 02/22/01
 CHILD RECEPTOR

TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR (MRAD)	1.94E-04 (N)	3.75E-04 (N)	5.44E-04 (N)	6.55E-04 (N)	1.77E-03 (N)
BETA AIR (MRAD)	2.22E-05 (ESE)	3.53E-05 (ESE)	5.14E-05 (ESE)	6.03E-05 (ESE)	1.69E-04 (ESE)
TOT. BODY (MREM)	1.46E-04 (N)	2.83E-04 (N)	4.10E-04 (N)	4.95E-04 (N)	1.33E-03 (N)
SKIN (MREM)	1.62E-04 (NNE)	3.13E-04 (NNE)	4.53E-04 (NNE)	5.45E-04 (NNE)	1.47E-03 (NNE)
ORGAN (MREM)	4.21E-03 (ESE)	1.16E-02 (ESE)	2.06E-02 (ESE)	1.27E-02 (ESE)	4.91E-02 (ESE)
	THYROID	THYROID	THYROID	THYROID	THYROID
THIS IS A REPORT FOR THE CALENDAR YEAR 2000					

COMPLIANCE STATUS - 10CFR 50 APP. I
 CHILD RECEPTOR

----- % OF APP I. -----							
	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP. I
GAMMA AIR (MRAD)	5.0	0.00	0.01	0.01	0.01	10.0	0.02
BETA AIR (MRAD)	10.0	0.00	0.00	0.00	0.00	20.0	0.00
TOT. BODY (MREM)	2.5	0.01	0.01	0.02	0.02	5.0	0.03
SKIN (MREM)	7.5	0.00	0.00	0.01	0.01	15.0	0.01
ORGAN (MREM)	7.5	0.06	0.15	0.27	0.17	15.0	0.33
	THYROID	THYROID	THYROID	THYROID	THYROID	THYROID	

RESULTS BASED UPON:

ODCM ANNEX REVISION 1.8 JUNE 1996
 ODCM SOFTWARE VERSION 1.1 January 1995
 ODCM DATABASE VERSION 1.1 January 1995

Table 3.1-1 (continued)

QUAD CITIES STATION UNIT TWO

ACTUAL 2000
 MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES
 PERIOD OF RELEASE - 01/01/00 TO 12/31/00 CALCULATED 02/22/01
 TEENAGER RECEPTOR

TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR (MRAD)	1.94E-04 (N)	3.75E-04 (N)	5.44E-04 (N)	6.55E-04 (N)	1.77E-03 (N)
BETA AIR (MRAD)	2.22E-05 (ESE)	3.53E-05 (ESE)	5.14E-05 (ESE)	6.03E-05 (ESE)	1.69E-04 (ESE)
TOT. BODY (MREM)	1.46E-04 (N)	2.83E-04 (N)	4.10E-04 (N)	4.95E-04 (N)	1.33E-03 (N)
SKIN (MREM)	1.62E-04 (NNE)	3.13E-04 (NNE)	4.53E-04 (NNE)	5.45E-04 (NNE)	1.47E-03 (NNE)
ORGAN (MREM)	3.55E-03 (ESE)	7.63E-03 (ESE)	1.39E-02 (ESE)	9.65E-03 (ESE)	3.47E-02 (ESE)
	LUNG	THYROID	THYROID	THYROID	THYROID

THIS IS A REPORT FOR THE CALENDAR YEAR 2000

COMPLIANCE STATUS - 10CFR 50 APP. I
 TEENAGER RECEPTOR

----- % OF APP I. -----							
	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP. I
GAMMA AIR (MRAD)	5.0	0.00	0.01	0.01	0.01	10.0	0.02
BETA AIR (MRAD)	10.0	0.00	0.00	0.00	0.00	20.0	0.00
TOT. BODY (MREM)	2.5	0.01	0.01	0.02	0.02	5.0	0.03
SKIN (MREM)	7.5	0.00	0.00	0.01	0.01	15.0	0.01
ORGAN (MREM)	7.5	0.05	0.10	0.19	0.13	15.0	0.23
	LUNG	THYROID	THYROID	THYROID	THYROID		

RESULTS BASED UPON: ODCM ANNEX REVISION 1.8 JUNE 1996
 ODCM SOFTWARE VERSION 1.1 January 1995
 ODCM DATABASE VERSION 1.1 January 1995

Table 3.1-1 (continued)

QUAD CITIES STATION UNIT TWO

ACTUAL 2000
 MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES
 PERIOD OF RELEASE - 01/01/00 TO 12/31/00 CALCULATED 02/22/01
 ADULT RECEPTOR

TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR (MRAD)	1.94E-04 (N)	3.75E-04 (N)	5.44E-04 (N)	6.55E-04 (N)	1.77E-03 (N)
BETA AIR (MRAD)	2.22E-05 (ESE)	3.53E-05 (ESE)	5.14E-05 (ESE)	6.03E-05 (ESE)	1.69E-04 (ESE)
TOT. BODY (MREM)	1.46E-04 (N)	2.83E-04 (N)	4.10E-04 (N)	4.95E-04 (N)	1.33E-03 (N)
SKIN (MREM)	1.62E-04 (NNE)	3.13E-04 (NNE)	4.53E-04 (NNE)	5.45E-04 (NNE)	1.47E-03 (NNE)
ORGAN (MREM)	3.46E-03 (ESE)	6.93E-03 (ESE)	1.27E-02 (ESE)	9.17E-03 (ESE)	3.23E-02 (ESE)

LUNG THYROID THYROID THYROID THYROID
 THIS IS A REPORT FOR THE CALENDAR YEAR 2000

COMPLIANCE STATUS - 10CFR 50 APP. I
 ADULT RECEPTOR

----- % OF APP I. -----

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP. I
GAMMA AIR (MRAD)	5.0	0.00	0.01	0.01	0.01	10.0	0.02
BETA AIR (MRAD)	10.0	0.00	0.00	0.00	0.00	20.0	0.00
TOT. BODY (MREM)	2.5	0.01	0.01	0.02	0.02	5.0	0.03
SKIN (MREM)	7.5	0.00	0.00	0.01	0.01	15.0	0.01
ORGAN (MREM)	7.5	0.05	0.09	0.17	0.12	15.0	0.22

LUNG THYROID THYROID THYROID THYROID

RESULTS BASED UPON: ODCM ANNEX REVISION 1.8 JUNE 1996
 ODCM SOFTWARE VERSION 1.1 January 1995
 ODCM DATABASE VERSION 1.1 January 1995

Table 3.2-1

QUAD CITIES STATION UNIT ONE

ACTUAL 2000
 MAXIMUM DOSES (MREM) RESULTING FROM AQUATIC EFFLUENTS
 PERIOD OF RELEASE - 01/01/00 TO 12/31/00 CALCULATED 03/15/01
 INFANT RECEPTOR

DOSE TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
TOTAL	4.04E-06	1.05E-05	2.11E-05	1.84E-05	5.40E-05
BODY					
INTERNAL	4.22E-06	1.16E-05	2.39E-05	2.15E-05	6.12E-05
ORGAN					
	LIVER	LIVER	LIVER	LIVER	LIVER

THIS IS A REPORT FOR THE CALENDAR YEAR 2000

COMPLIANCE STATUS - 10 CFR 50 APP. I

----- % OF APP I. -----							
	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP. I
TOTAL BODY (MREM)	1.5	0.00	0.00	0.00	0.00	3.0	0.00
CRIT. ORGAN (MREM)	5.0	0.00	0.00	0.00	0.00	10.0	0.00
		LIVER	LIVER	LIVER	LIVER		LIVER

RESULTS BASED UPON:

ODCM ANNEX REVISION 1.8 JUNE 1996
 ODCM SOFTWARE VERSION 1.1 January 1995
 ODCM DATABASE VERSION 1.1 January 1995

Table 3.2-1 (continued)

QUAD CITIES STATION UNIT ONE

ACTUAL 2000
 MAXIMUM DOSES (MREM) RESULTING FROM AQUATIC EFFLUENTS
 PERIOD OF RELEASE - 01/01/00 TO 12/31/00 CALCULATED 03/15/01
 CHILD RECEPTOR

DOSE TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
TOTAL	4.85E-06	1.49E-05	3.12E-05	2.94E-05	8.03E-05
BODY					
INTERNAL	9.00E-06	3.93E-05	8.79E-05	9.19E-05	2.28E-04
ORGAN					
	LIVER	LIVER	LIVER	LIVER	LIVER

THIS IS A REPORT FOR THE CALENDAR YEAR 2000

COMPLIANCE STATUS - 10 CFR 50 APP. I

----- % OF APP I. -----

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP. I
TOTAL BODY (MREM)	1.5	0.00	0.00	0.00	0.00	3.0	0.00
CRIT. ORGAN (MREM)	5.0	0.00	0.00	0.00	0.00	10.0	0.00
		LIVER	LIVER	LIVER	LIVER		LIVER

RESULTS BASED UPON:
 ODCM ANNEX REVISION 1.8 JUNE 1996
 ODCM SOFTWARE VERSION 1.1 January 1995
 ODCM DATABASE VERSION 1.1 January 1995

Table 3.2-1 (continued)

QUAD CITIES STATION UNIT ONE

ACTUAL 2000
 MAXIMUM DOSES (MREM) RESULTING FROM AQUATIC EFFLUENTS
 PERIOD OF RELEASE - 01/01/00 TO 12/31/00 CALCULATED 03/15/01
 TEENAGER RECEPTOR

DOSE TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
TOTAL	4.01E-06	1.63E-05	3.60E-05	3.71E-05	9.33E-05
BODY					
INTERNAL	7.41E-06	3.62E-05	8.22E-05	8.79E-05	2.14E-04
ORGAN					
	LIVER	LIVER	LIVER	LIVER	LIVER

THIS IS A REPORT FOR THE CALENDAR YEAR 2000

COMPLIANCE STATUS - 10 CFR 50 APP. I

----- % OF APP I. -----

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP. I
TOTAL BODY (MREM)	1.5	0.00	0.00	0.00	0.00	3.0	0.00
CRIT. ORGAN (MREM)	5.0	0.00	0.00	0.00	0.00	10.0	0.00
		LIVER	LIVER	LIVER	LIVER		LIVER

RESULTS BASED UPON: ODCM ANNEX REVISION 1.8 JUNE 1996
 ODCM SOFTWARE VERSION 1.1 January 1995
 ODCM DATABASE VERSION 1.1 January 1995

Table 3.2-1 (continued)

QUAD CITIES STATION UNIT ONE

ACTUAL 2000
 MAXIMUM DOSES (MREM) RESULTING FROM AQUATIC EFFLUENTS
 PERIOD OF RELEASE - 01/01/00 TO 12/31/00 CALCULATED 03/15/01
 ADULT RECEPTOR

DOSE TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
TOTAL	6.42E-06	2.75E-05	6.13E-05	6.38E-05	1.59E-04
BODY					
INTERNAL	8.18E-06	3.78E-05	8.52E-05	9.01E-05	2.21E-04
ORGAN					
	LIVER	LIVER	LIVER	LIVER	LIVER

THIS IS A REPORT FOR THE CALENDAR YEAR 2000

COMPLIANCE STATUS - 10 CFR 50 APP. I

----- % OF APP I. -----							
	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP. I
TOTAL BODY (MREM)	1.5	0.00	0.00	0.00	0.00	3.0	0.01
CRIT. ORGAN (MREM)	5.0	0.00	0.00	0.00	0.00	10.0	0.00
		LIVER	LIVER	LIVER	LIVER		LIVER

RESULTS BASED UPON: ODCM ANNEX REVISION 1.8 JUNE 1996
 ODCM SOFTWARE VERSION 1.1 January 1995
 ODCM DATABASE VERSION 1.1 January 1995

Table 3.2-1 (continued)

QUAD CITIES STATION UNIT TWO

ACTUAL 2000
 MAXIMUM DOSES (MREM) RESULTING FROM AQUATIC EFFLUENTS
 PERIOD OF RELEASE - 01/01/00 TO 12/31/00 CALCULATED 03/15/01
 INFANT RECEPTOR

DOSE TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
TOTAL	8.26E-06	3.50E-06	4.04E-06	1.04E-06	1.68E-05
BODY					
INTERNAL	8.78E-06	3.94E-06	4.81E-06	1.37E-06	1.89E-05
ORGAN					
	LIVER	LIVER	LIVER	LIVER	LIVER

THIS IS A REPORT FOR THE CALENDAR YEAR 2000

COMPLIANCE STATUS - 10 CFR 50 APP. I

----- % OF APP I. -----							
	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP. I
TOTAL BODY (MREM)	1.5	0.00	0.00	0.00	0.00	3.0	0.00
CRIT. ORGAN (MREM)	5.0	0.00	0.00	0.00	0.00	10.0	0.00
		LIVER	LIVER	LIVER	LIVER		LIVER

RESULTS BASED UPON: ODCM ANNEX REVISION 1.8 JUNE 1996
 ODCM SOFTWARE VERSION 1.1 January 1995
 ODCM DATABASE VERSION 1.1 January 1995

Table 3.2-1 (continued)

QUAD CITIES STATION UNIT TWO

ACTUAL 2000
 MAXIMUM DOSES (MREM) RESULTING FROM AQUATIC EFFLUENTS
 PERIOD OF RELEASE - 01/01/00 TO 12/31/00 CALCULATED 03/15/01
 CHILD RECEPTOR

DOSE TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
TOTAL	1.07E-05	5.07E-06	6.80E-06	2.21E-06	2.47E-05
BODY					
INTERNAL	2.29E-05	1.38E-05	2.26E-05	8.95E-06	6.83E-05
ORGAN					
	LIVER	LIVER	LIVER	LIVER	LIVER

THIS IS A REPORT FOR THE CALENDAR YEAR 2000

COMPLIANCE STATUS - 10 CFR 50 APP. I

	----- % OF APP I. -----						
	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP. I
TOTAL BODY (MREM)	1.5	0.00	0.00	0.00	0.00	3.0	0.00
CRIT. ORGAN (MREM)	5.0	0.00	0.00	0.00	0.00	10.0	0.00
		LIVER	LIVER	LIVER	LIVER		LIVER

RESULTS BASED UPON: ODCM ANNEX REVISION 1.8 JUNE 1996
 ODCM SOFTWARE VERSION 1.1 January 1995
 ODCM DATABASE VERSION 1.1 January 1995

Table 3.2-1 (continued)

QUAD CITIES STATION UNIT TWO

ACTUAL 2000
 MAXIMUM DOSES (MREM) RESULTING FROM AQUATIC EFFLUENTS
 PERIOD OF RELEASE - 01/01/00 TO 12/31/00 CALCULATED 03/15/01
 TEENAGER RECEPTOR

DOSE TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
TOTAL	9.92E-06	5.68E-06	9.02E-06	3.48E-06	2.81E-05
BODY					
INTERNAL	2.00E-05	1.28E-05	2.19E-05	8.97E-06	6.36E-05
ORGAN					
	LIVER	LIVER	LIVER	LIVER	LIVER

THIS IS A REPORT FOR THE CALENDAR YEAR 2000

COMPLIANCE STATUS - 10 CFR 50 APP. I

----- % OF APP I. -----

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP. I
TOTAL BODY (MREM)	1.5	0.00	0.00	0.00	0.00	3.0	0.00
CRIT. ORGAN (MREM)	5.0	0.00	0.00	0.00	0.00	10.0	0.00
		LIVER	LIVER	LIVER	LIVER		LIVER

RESULTS BASED UPON: ODCM ANNEX REVISION 1.8 JUNE 1996
 ODCM SOFTWARE VERSION 1.1 January 1995
 ODCM DATABASE VERSION 1.1 January 1995

Table 3.2-1 (continued)

QUAD CITIES STATION UNIT TWO

ACTUAL 2000
 MAXIMUM DOSES (MREM) RESULTING FROM AQUATIC EFFLUENTS
 PERIOD OF RELEASE - 01/01/00 TO 12/31/00 CALCULATED 03/15/01
 ADULT RECEPTOR

DOSE TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
TOTAL	1.62E-05	9.61E-06	1.56E-05	6.15E-06	4.76E-05
BODY					
INTERNAL	2.14E-05	1.33E-05	2.23E-05	8.99E-06	6.60E-05
ORGAN					
	LIVER	LIVER	LIVER	LIVER	LIVER

THIS IS A REPORT FOR THE CALENDAR YEAR 2000

COMPLIANCE STATUS - 10 CFR 50 APP. I

----- % OF APP I. -----

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP. I
TOTAL BODY (MREM)	1.5	0.00	0.00	0.00	0.00	3.0	0.00
CRIT. ORGAN (MREM)	5.0	0.00	0.00	0.00	0.00	10.0	0.00
		LIVER	LIVER	LIVER	LIVER		LIVER

RESULTS BASED UPON: ODCM ANNEX REVISION 1.8 JUNE 1996
 ODCM SOFTWARE VERSION 1.1 January 1995
 ODCM DATABASE VERSION 1.1 January 1995

Table 3.3-1

QUAD CITIES STATION UNIT ONE

10 CFR 20 COMPLIANCE ASSESSMENT

PERIOD OF ASSESSMENT 01/01/00 TO 12/31/00

CALCULATED 02/23/01

1. 10 CFR 20.1301 (a) (1) Compliance

Total Effective Dose Equivalent,	mrem/yr	4.94
10 CFR 20.1301 (a) (1) limit	mrem/yr	100.0
	% of limit	4.94

Compliance Summary - 10CFR20

	1 st Qtr	2 nd Qtr	3 rd Qtr	4 th Qtr	% of Limit
TEDE	1.36E+00	1.33E+00	1.32E+00	9.30E-01	4.94E+00

RESULTS BASED UPON:

ODCM ANNEX REVISION 1.8
ODCM SOFTWARE VERSION 1.1
ODCM DATABASE VERSION 1.1

JUNE 1996
JANUARY 1995
JANUARY 1995

Table 3.3-1 (Continued)

QUAD CITIES STATION UNIT ONE

10 CFR 20 COMPLIANCE REPORT

PERIOD OF ASSESSMENT 01/01/00 TO 12/31/00

CALCULATED 02/23/01

10 CFR 20.1301 (D)/40 CFR 190 COMPLIANCE

		Dose (mrem)	Limit (mrem)	% of Limit
Whole body (DDE)	Plume	1.22E-03		
	Skyshine	4.92E+00		
	Ground	5.38E-03		
	Total	4.93E+00	25.0	19.71
Organ Dose (CDE)	Thyroid	1.52E-02	75.0	0.02
	Gonads	1.22E-02	25.0	0.05
	Breast	1.21E-02	25.0	0.05
	Lung	1.24E-02	25.0	0.05
	Marrow	1.22E-02	25.0	0.05
	Bone	1.21E-02	25.0	0.05
	Remainder	1.25E-02	25.0	0.05
	CEDE	1.24E-02		
	TEDE	4.94E+00	100.0	4.94

RESULTS ARE BASED UPON:	ODCM ANNEX REVISION 1.8	JUNE 1996
	ODCM SOFTWARE VERSION 1.1	JANUARY 1995
	ODCM DATABASE VERSION 1.1	JANUARY 1995

Table 3.3-1 (Continued)

QUAD CITIES STATION UNIT TWO

10 CFR 20 COMPLIANCE ASSESSMENT

PERIOD OF ASSESSMENT 01/01/00 TO 12/31/00

CALCULATED 02/23/01

2. 10 CFR 20.1301 (a) (1) Compliance

Total Effective Dose Equivalent,	mrem/yr	4.79
10 CFR 20.1301 (a) (1) limit	mrem/yr	100.0
	% of limit	4.79

Compliance Summary - 10CFR20

	1 st Qtr	2 nd Qtr	3 rd Qtr	4 th Qtr	% of Limit
TEDE	8.68E-01	1.82E+00	7.32E-01	1.37E+00	4.79E+00

RESULTS BASED UPON:

ODCM ANNEX REVISION 1.9
ODCM SOFTWARE VERSION 1.1
ODCM DATABASE VERSION 1.1

JUNE 1996
JANUARY 1995
JANUARY 1995

Table 3.3-1 (Continued)

QUAD CITIES STATION UNIT TWO

10 CFR 20 COMPLIANCE REPORT

PERIOD OF ASSESSMENT 01/01/00 TO 12/31/00

CALCULATED 02/23/01

10 CFR 20.1301 (D)/40 CFR 190 COMPLIANCE

		Dose (mrem)	Limit (mrem)	% of Limit
Whole body (DDE)	Plume	1.33E-03		
	Skyshine	4.77E+00		
	Ground	9.03E-03		
	Total	4.78E+00	25.0	19.12
Organ Dose (CDE)	Thyroid	1.57E-02	75.0	0.02
	Gonads	1.24E-02	25.0	0.05
	Breast	1.23E-02	25.0	0.05
	Lung	1.28E-02	25.0	0.05
	Marrow	1.23E-02	25.0	0.05
	Bone	1.23E-02	25.0	0.05
	Remainder	1.28E-02	25.0	0.05
	CEDE	1.26E-02		
	TEDE	4.79E+00	100.0	4.79

RESULTS ARE BASED UPON:	ODCM ANNEX REVISION 1.9	JUNE 1996
	ODCM SOFTWARE VERSION 1.1	JANUARY 1995
	ODCM DATABASE VERSION 1.1	JANUARY 1995

Table 3.4-1

QUAD CITIES STATION - UNIT 1

MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES

CURRENT PERIOD OF RELEASE: October 1 - December 31 YEAR: 2000

TYPE OF DOSE	CURRENT PERIOD	CURRENT QUARTER	THIRD QUARTER	SECOND QUARTER	FIRST QUARTER	ANNUAL
GAMMA AIR (mrad)	1.030E-03(ESE)	1.030E-03(ESE)	1.265E-03(WNW)	1.180E-03(NNE)	6.212E-04(N)	3.581E-03(N)
BETA AIR (mrad)	2.770E-04(ESE)	2.770E-04(ESE)	2.620E-04(WNW)	3.455E-04(NNE)	1.124E-04(ESE)	7.199E-04(NNE)
WHOLE BODY (mrem)	2.580E-03(NNE)	2.580E-03(NNE)	1.850E-03(NNE)	1.930E-03(NNE)	9.525E-04(S)	7.291E-03(NNE)
SKIN (mrem)	3.115E-03(NNE)	3.115E-03(NNE)	2.330E-03(NNE)	2.525E-03(NNE)	1.192E-03(S)	9.118E-03(NNE)
ORGAN (mrem)	2.165E-04(WNW)	2.165E-04(WNW)	1.352E-04(WNW)	5.225E-05(NNE)	7.138E-05(WNW)	4.498E-04(WNW)
CRITICAL PERS-ORG	TA-LN	TA-LN	TA-LN	CH-TH	TA-LN	TA-LN

COMPLIANCE STATUS

TYPE OF DOSE	10 CFR 50 APP. I		10 CFR 50 APP. I	
	QUARTERLY OBJECTIVE	% OF APP. I	YEARLY OBJECTIVE	% OF APP. I
GAMMA AIR (mrad)	5.0	.02	10.0	.04
BETA AIR (mrad)	10.0	.00	20.0	.00
WHOLE BODY (mrem)	2.5	.10	5.0	.15
SKIN (mrem)	7.5	.04	15.0	.06
ORGAN (mrem)	7.5	.00	15.0	.00
CRITICAL PERSON-ORGAN		(TA-LN)		(TA-LN)

CRITICAL ORGANS: BN=BONE, LV=LIVER, TB-TOTAL BODY, TH=THYROID, KD=KIDNEY, LN=LUNG, GI=GI-LLI
 CRITICAL PERSON: AD-ADULT, TA-TEENAGER, CH=CHILD, IN=INFANT

Date of calculation: 4/19/2001

Table 3.4-1 (continued)

QUAD CITIES STATION - UNIT 2

MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES

CURRENT PERIOD OF RELEASE: October 1 - December 31 YEAR: 2000

TYPE OF DOSE	CURRENT PERIOD	CURRENT QUARTER	THIRD QUARTER	SECOND QUARTER	FIRST QUARTER	ANNUAL
GAMMA AIR (mrad)	1.030E-03(ESE)	1.030E-03(ESE)	1.265E-03(WNW)	1.180E-03(NNE)	6.212E-04(N)	3.581E-03(N)
BETA AIR (mrad)	2.770E-04(ESE)	2.770E-04(ESE)	2.620E-04(WNW)	3.455E-04(NNE)	1.124E-04(ESE)	7.199E-04(NNE)
WHOLE BODY (mrem)	2.580E-03(NNE)	2.580E-03(NNE)	1.850E-03(NNE)	1.930E-03(NNE)	9.525E-04(S)	7.291E-03(NNE)
SKIN (mrem)	3.115E-03(NNE)	3.115E-03(NNE)	2.330E-03(NNE)	2.525E-03(NNE)	1.192E-03(S)	9.118E-03(NNE)
ORGAN (mrem)	2.165E-04(WNW)	2.165E-04(WNW)	1.352E-04(WNW)	5.225E-05(NNE)	7.138E-05(WNW)	4.498E-04(WNW)
CRITICAL PERS-ORG	TA-LN	TA-LN	TA-LN	CH-TH	TA-LN	TA-LN

COMPLIANCE STATUS

TYPE OF DOSE	10 CFR 50 APP. I QUARTERLY OBJECTIVE	% OF APP. I	10 CFR 50 APP. I YEARLY OBJECTIVE	% OF APP. I
GAMMA AIR (mrad)	5.0	.02	10.0	.04
BETA AIR (mrad)	10.0	.00	20.0	.00
WHOLE BODY (mrem)	2.5	.10	5.0	.15
SKIN (mrem)	7.5	.04	15.0	.06
ORGAN (mrem)	7.5	.00	15.0	.00
CRITICAL PERSON-ORGAN		(TA-LN)		(TA-LN)

CRITICAL ORGANS: BN=BONE, LV=LIVER, TB=TOTAL BODY, TH=THYROID, KD=KIDNEY, LN=LUNG, GI=GI-LLI
 CRITICAL PERSON: AD=ADULT, TA=TEENAGER, CH=CHILD, IN=INFANT

Date of calculation: 4/19/2001

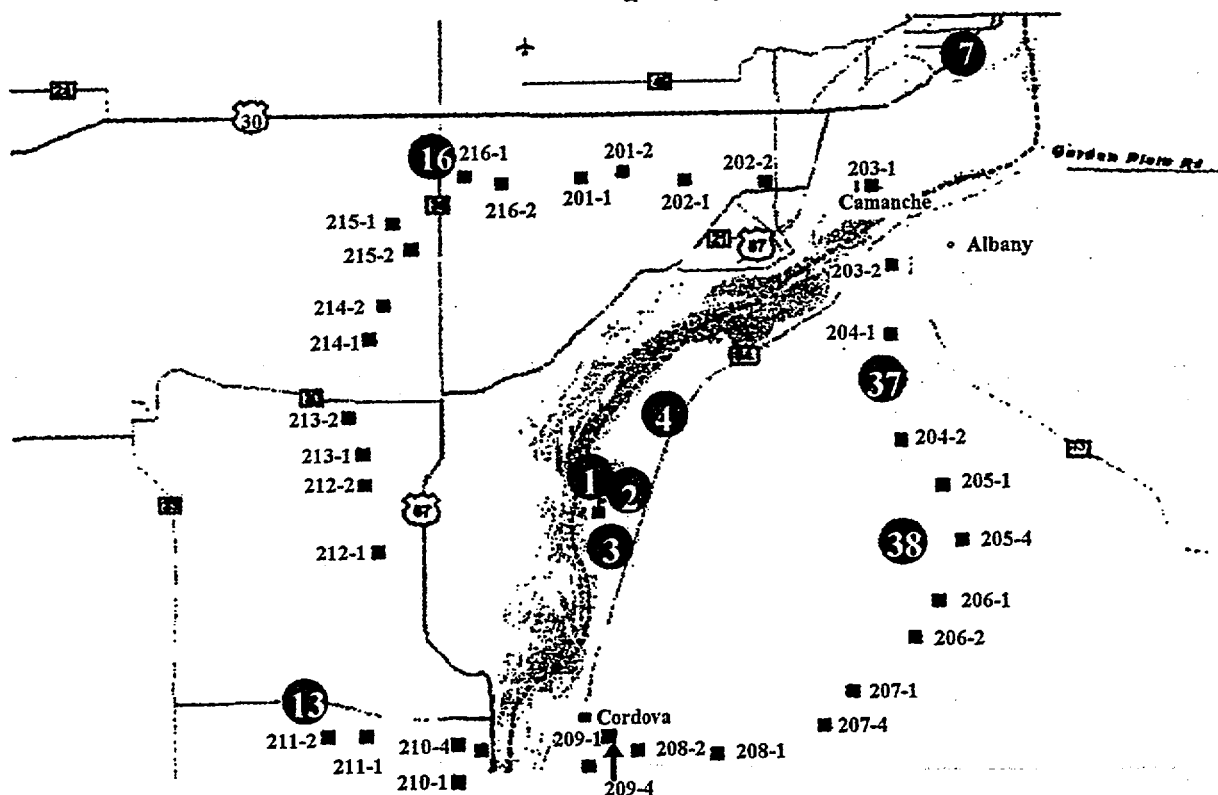
Maximum Offsite
Values (pCi/m³)

Iodine 1.88E-04
 Particulate Matter 5.40E-04
 Data Recovery 99.3%
 (priority parameters)

Quad Cities

Figure 5.0-1

Quad Cities Outer Ring TLD's and Air Sampling Sites



- = Air Sampling Sites
- = Outer Ring TLD Locations

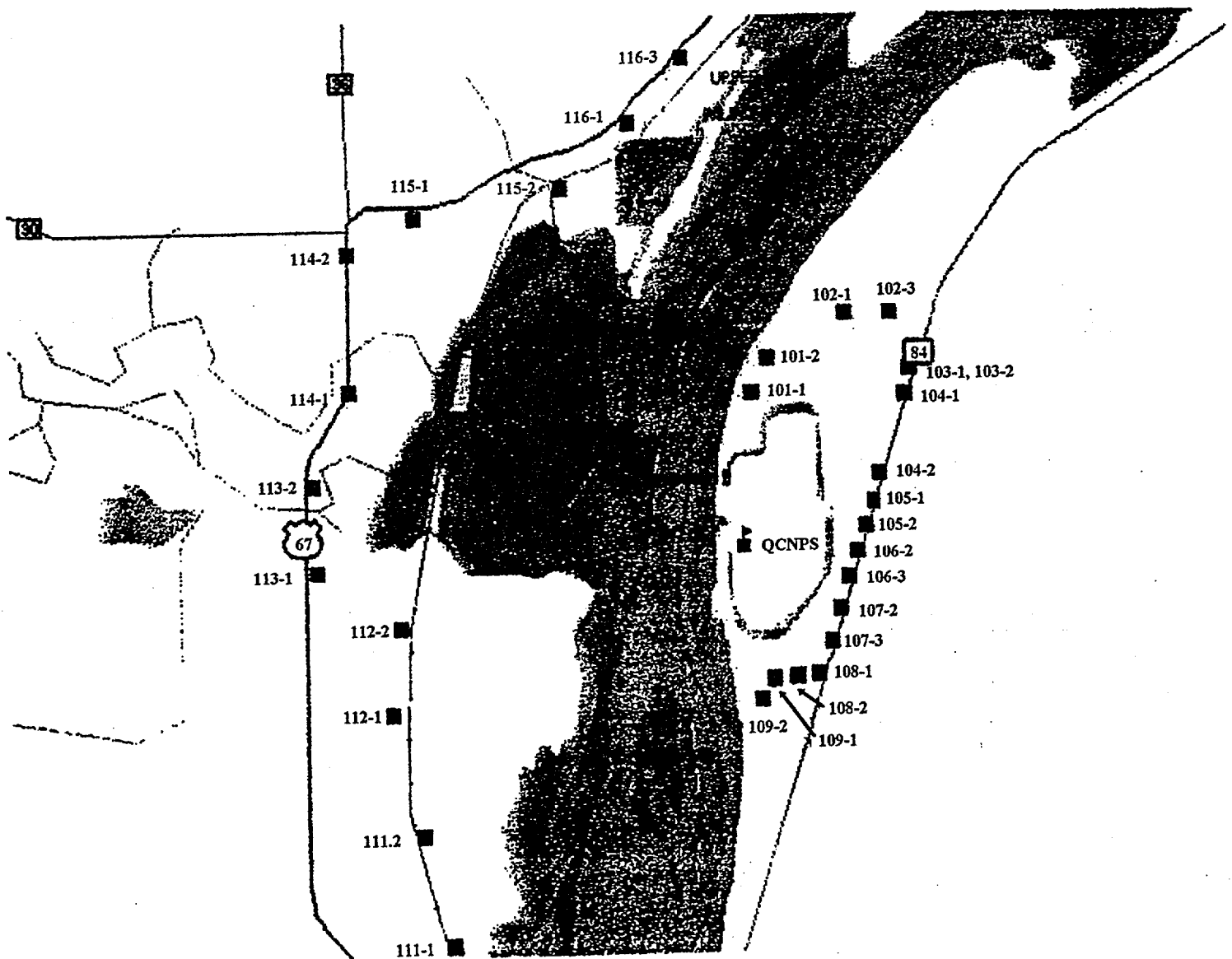
Air Sampling Sites

- Q-01 Onsite No. 1
- Q-02 Onsite No. 2
- Q-03 Onsite No. 3
- Q-04 Nitrin
- Q-07 Clinton (C)
- Q-13 Princeton
- Q-16 Low Moor
- Q-37 Meredosia Road
- Q-38 Fuller Road

Quad Cities

Figure 5.0-2

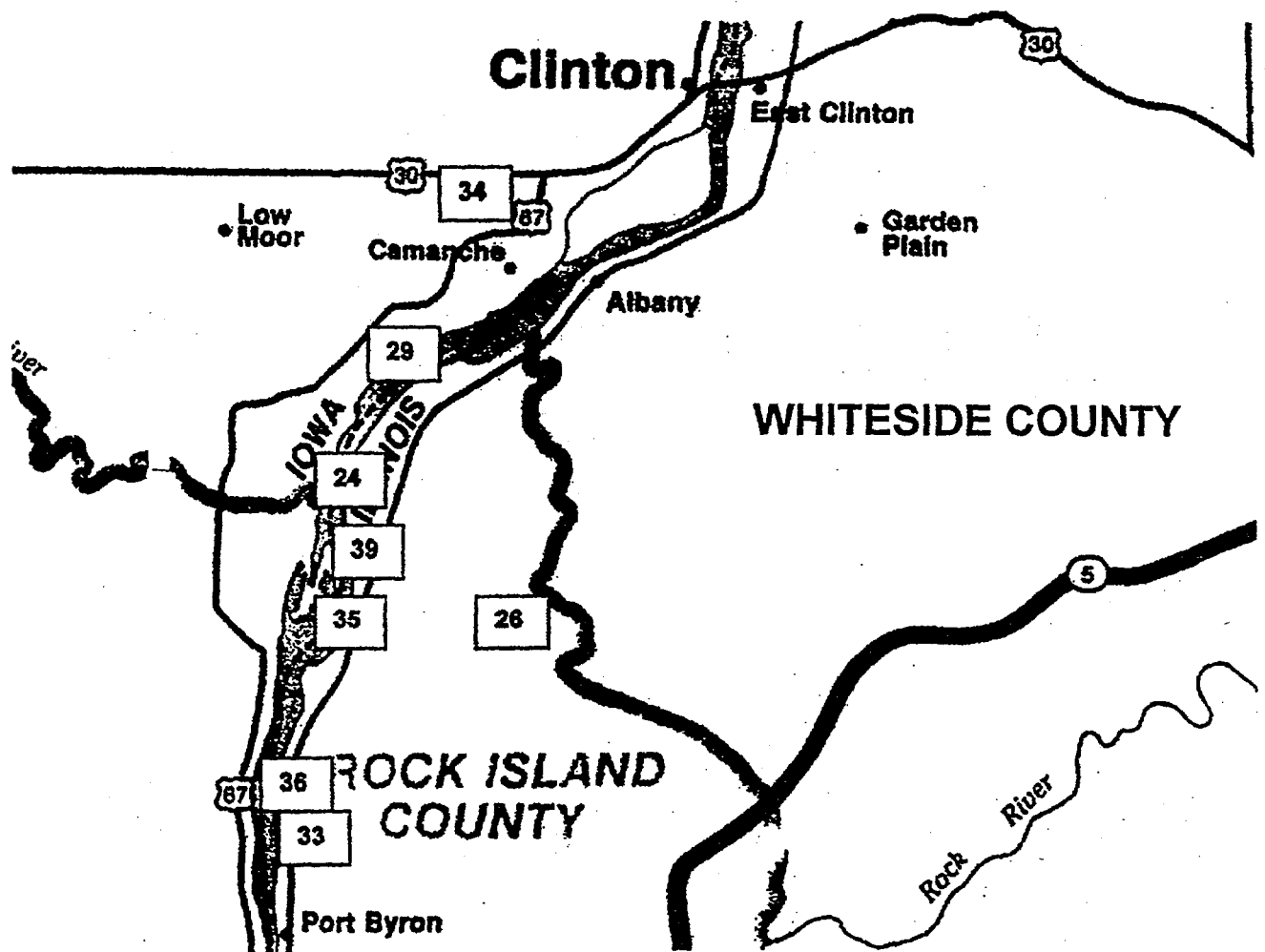
Quad Cities Inner Ring TLD Locations



Quad Cities

Figure 5.0-3

Milk, Fish, Water and Sediment Sampling Locations



Milk, Fish, Water and Sediment Sample Locations

Q-24 Pool #14 of Mississippi River	Q-34 Camanche (C)
Q-26 Bill Stanley Dairy	Q-35 McMillan Well
Q-29 Mississippi River, Upstream (C)	Q-36 Cordova Well
Q-33 Cordova	Q-39 Cordova, Downstream on Mississippi River

TABLE 5.0-1

Quad Cities Station
Radiological Environmental
Monitoring Locations

Q-01 Onsite No. 1
Q-02 Onsite No. 2
Q-03 Onsite No. 3
Q-04 Nitrin
Q-07 Clinton
Q-13 Princeton
Q-16 Low Moor
Q-24 Pool #14 of Mississippi River
Q-26 Bill Stanley Dairy
Q-29 Mississippi River, Upstream
Q-33 Cordova
Q-34 Camanche
Q-35 McMillan Well
Q-36 Cordova Well
Q-37 Meredosia Road
Q-38 Fuller Road
Q-39 Cordova, Downstream on Mississippi
Q-Quad 1
Q-Quad 2
Q-Quad 3
Q-Quad 4
Q-Control

Air Sampling	TLD	Fish	Milk	Sediments	Surface Water	Well Water	Vegetation
◀	◀
◀	◀
◀	◀
◀	◀
◀	◀
◀	◀
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CENSUS

Dairy
Residence
Livestock

TABLE 5.0-2

QUAD CITIES STATION

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM, SAMPLING LOCATIONS

1. AIR SAMPLERS

<u>Site Code</u> ^a	<u>Location</u>	<u>Distance</u> (miles)	<u>Direction</u>	<u>Sector</u>
Q-01	Onsite No. 1	0.5	N	A
Q-02	Onsite No. 2	0.5	ENE	D
Q-03	Onsite No. 3	0.6	S	J
Q-04	Nitrin	1.5	NE	C
Q-07 (C)	Clinton	9.0	NE	C
Q-13	Princeton	4.8	SW	L
Q-16	Low Moor	6.0	NNW	R
Q-37	Meredosia Road	4.4	ENE	D
Q-38	Fuller Road	4.7	E	E

2. TLDs

a. Same as No. 1.

b. Special TLD locations

<u>Site Code</u>	<u>Distance</u> (miles)	<u>Direction</u>	<u>Sector</u>
Inner Ring			
Q-101-1	0.6	N	A
Q-101-2	0.9	N	A
Q-102-1	1.3	NNE	B
Q-102-3	1.4	NNE	B
Q-103-1,2	1.2	NE	C
Q-104-1	1.1	ENE	D
Q-104-2	0.9	ENE	D
Q-105-1,2	0.8	E	E
Q-106-2,3	0.7	ESE	F
Q-107-2	0.7	SE	G
Q-107-3	0.8	SE	G
Q-108-1	1.0	SSE	H
Q-108-2	0.9	SSE	H
Q-109-1	0.9	S	J
Q-109-2	1.2	S	J
Q-111-1	2.6	SW	L
Q-111-2	2.5	SW	L
Q-112-1	2.5	WSW	M
Q-112-2	2.2	WSW	M
Q-113-1,2	2.5	W	N
Q-114-1	2.1	WNW	P
Q-114-2	2.5	WNW	P
Q-115-1	2.6	NW	Q
Q-115-2	2.3	NW	Q
Q-116-1	2.3	NNW	R
Q-116-3	2.4	NNW	R

^a Control (background) locations are denoted by a "C" after site code. All other locations are indicators.

TABLE 5.0-2 (continued)

QUAD CITIES STATION

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM, SAMPLING LOCATIONS

2. TLDs

b. Special TLD locations (continued)

<u>Site Code</u>	<u>Distance (miles)</u>	<u>Direction</u>	<u>Sector</u>
Outer Ring			
Q-201-1,2	4.2	N	A
Q-202-1	4.4	NNE	B
Q-202-2	4.8	NNE	B
Q-203-1	4.7	NE	C
Q-203-2	5.0	NE	C
Q-204-1	4.7	ENE	D
Q-204-2	4.5	ENE	D
Q-205-1	4.7	E	E
Q-205-4	4.8	E	E
Q-206-1,2	4.8	ESE	F
Q-207-1,4	4.7	SE	G
Q-208-1	4.3	SSE	H
Q-208-2	4.9	SSE	H
Q-209-1,4	4.8	S	J
Q-210-1,4	4.4	SSW	K
Q-211-1,2	4.5	SW	L
Q-212-1	5.4	WSW	M
Q-212-2	4.4	WSW	M
Q-213-1	4.3	W	N
Q-213-2	4.8	W	N
Q-214-1	4.7	WNW	P
Q-214-2	4.4	WNW	P
Q-215-1	5.0	NW	Q
Q-215-2	4.2	NW	Q
Q-216-1	4.6	NNW	R
Q-216-2	4.3	NNW	R

3. MILK

<u>Site Code</u> ^a	<u>Location</u>	<u>Distance (mile)</u>	<u>Direction</u>	<u>Sector</u>
Q-26	Bill Stanley Dairy	3.5	ESE	F

4. SURFACE WATER

<u>Site Code</u> ^a	<u>Location</u>	<u>Distance (miles)</u>	<u>Direction</u>	<u>Sector</u>
Q-33	Cordova	3.3	SSW	K
Q-34(C)	Camanche	4.4	NNE	C

^a Control (background) locations are denoted by a "C" after site code. All other locations are indicators.

Table 5.0-2 (continued)

QUAD CITIES STATION

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM, SAMPLING LOCATIONS

5. WELL WATER

<u>Site Code</u> ^a	<u>Location</u>	<u>Distance</u> <u>(miles)</u>	<u>Direction</u>	<u>Sector</u>
Q-35	McMillan Well	1.5	S	J
Q-36	Cordova Well	3.3	SSW	K

6. FISH

<u>Site Code</u> ^a	<u>Location</u>	<u>Distance</u> <u>(miles)</u>	<u>Direction</u>	<u>Sector</u>
Q-24	Pool #14 of Mississippi River	0.5	SW	L
Q-29 (C)	Mississippi River, Upstream	1.0	N	A

7. SEDIMENTS

<u>Site Code</u> ^a	<u>Location</u>	<u>Distance</u> <u>(miles)</u>	<u>Direction</u>	<u>Sector</u>
Q-39	Cordova, Downstream on Mississippi River	0.8	SSW	K

8. VEGETABLES

<u>Site Code</u> ^a	<u>Location</u>	<u>Distance</u> <u>(miles)</u>	<u>Direction</u>	<u>Sector</u>
Q-Quad 1	Robert Ziegler	6.0	NE	C
Q-Quad 2	Dale Nimmic	3.0	ESE	F
Q-Quad 3	Amy Johnston	1.8	S	J
Q-Quad 4	Mike Fauwcet	4.5	WNW	P
Q-Control(C)	Charles Leavens	9.5	NE	C

^a Control (background) locations are denoted by a "C" after site code. All other locations are indicators.

TABLE 5.0-2 (continued)

QUAD CITIES STATION
RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM, SAMPLE COLLECTION AND ANALYSES

Sample Media	Location		Collection Frequency	Type of Analysis	Frequency of Analysis
	Code ^a	Site			
1. Airborne Particulates	Onsite, Nearfield and Control		Filter exchange weekly	Gross Beta Gamma Isot.	Weekly Quarterly Composite (or if weekly gross beta in a sample exceeds 5X the average concentration of preceding calendar quarter).
	Q-01	Onsite No. 1			
	Q-02	Onsite No. 2			
	Q-03	Onsite No.3			
	Q-04	Nitritin			
	Q-07 (C)	Clinton			
	Far Field			Gamma Isot.	If gross beta in a sample exceeds 10 times the yearly mean of control samples and radioactivity is confirmed as having its origin in airborne effluents from station.
	Q-13	Princeton			
	Q-16	Low Moor			
	Q-37	Meredosia Road			
	Q-38	Fuller Road			
2. Airborne Iodine	Same as 1.		Canister exchange biweekly	I-131	Biweekly
3. Air Sampling Train	Same as 1.		-	Test and Maintenance	Weekly
4. TLDs	a.	Same as 1. (two TLDs per location)	Quarterly	Gamma	Quarterly
	b.	Q-101-1,2 Inner Ring			
		102-1,3			
		103-1,2			
		104-1,2			
		105-1,2			
		106-2,3			
		107-2,3			
		108-1,2			
		109-1,2			
		111-1,2			
		112-1,2			
		113-1,2			
		114-1,2			
		115-1,2			
		116-1,3			
	c.	Q-201-1,2 Outer Ring			
		202-1,2			
		203-1,2			
		204-1,2			
		205-1,4			
		206-1,2			
		207-1,4			
		208-1,2			
		209-1,4			
		210-1,4			
		211-1,2			

^aControl (background) locations are denoted by a "C" in this column. All other location are indicators.

TABLE 5.0-2 (continued)

QUAD CITIES STATION
RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM, SAMPLE COLLECTION AND ANALYSES

Sample Media	Location		Collection Frequency	Type of Analysis	Frequency of Analysis
	Code ^a	Site			
4. TLDs (continued)	Outer Ring		Quarterly	Gamma	Quarterly
	Q-212-1,2				
	213-1,2				
	214-1,2				
	215-1,2				
	216-1,2				
5. Milk	Q-26	Bill Stanley Dairy	Biweekly: May-October Monthly: November-April	I-131 Gamma Isot.	Biweekly: May-October Monthly: November-April
6. Vegetables	Quad 1	Robert Ziegler	Annually - two varieties from each location as available at harvest.	Gamma Isot.	Annually
	Quad 2	Dale Nimmic		I-131	Annually, on broad leaf vegetation.
	Quad 3	Amy Johnston			
	Quad 4	Mike Fauwcoet			
	Control	Charles Leavens			
7. Ground/Well	Q-35	McMillan Well	Quarterly	Gamma Isot.	Quarterly
Water	Q-36	Cordova Well		Tritium	
8. Surface Water	Q-33	Cordova	Weekly	Gross Beta	Monthly composite.
	Q-34 (C)	Comanche		Gamma Isot.	Monthly composite.
				Tritium	Quarterly composite.
9. Fish (at least two species)	Q-24	Pool #14 of Mississippi River	Two times/year	Gamma Isot.	Two times/year on edible portions only.
	Q-29 (C)	Mississippi River Upstream			
10. Sediments	Q-28	Cordova, Downstream on Mississippi River	Semiannually	Gamma Isot.	Semiannually
11. Land Use Census					
	Milch Animals				
	a. Site Boundary to 2 miles		-	a. Enumeration by a door to door or equivalent counting technique.	Annually during grazing season.
	b. 2 miles to 6.2 miles		-	b. Using referenced information from county agricultural agents or other reliable sources.	
	c. At dairies listed in Item 5.		-	c. Inquire as to feeding practices:	Annually during grazing season.

^aControl (background) locations are denoted by a "C" in this column. All other location are indicators.

TABLE 5.0-2 (continued)

QUAD CITIES STATION
RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM, SAMPLE COLLECTION AND ANALYSES

Sample Media	Location		Collection Frequency	Type of Analysis	Frequency of Analysis
	Code ^a	Site			
13. Land Use Census (continued)				1. Pasture only. 2. Feed and chop only. 3. Pasture and feed: if both, ask farmer to estimate fraction of food from pasture: <25%, 25-50%, 50-75%, or >75%.	
Nearest Residence		In all sectors up to 6.2 miles.	-	-	Annually during grazing season.

^a Control (background) locations are denoted by a "C" in this column. All other location are indicators.

Table 5.0-3

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM QUARTERLY SUMMARY

Name of Facility: Quad Cities Nuclear Power Station
 Location of Facility: Rock Island, Illinois
 (County, State)

Docket No. 50-254, 50-265
 Reporting Period: 1st Quarter 2000

(County, State)

Sample Type (Units)	Type and Number of Analyses	LLD	Indicator Locations Mean ^a Range	Location with Highest Quarterly Mean	Highest Mean ^a Range	Control Locations Mean ^a Range	Number of Non-routine Results	
Air Particulates (pCi/m ³)	Gross Beta	64	0.01	0.031 (51/52) (0.014-0.056)	Q-01, Onsite No. 1 0.5 mi. N, Sector A	0.032 (12/12) (0.014-0.056)	0.031 (13/13) (0.014-0.052)	0
	Gamma Spec.	5						
	Cs-134		0.01	<LLD	-	-	<LLD	0
	Cs-137		0.01	<LLD	-	-	<LLD	0
	Other Gammas		0.01-0.04	<LLD	-	-	<LLD	0
Airborne Iodine (pCi/m ³)	I-131	34	0.07	<LLD	-	-	<LLD	0
Milk (pCi/L)	I-131	3	5	<LLD	-	-	None	0
	Gamma Spec.	3						
	Cs-134		15	<LLD	-	-	None	0
	Cs-137		18	<LLD	-	-	None	0
	Ba/La-140		15	<LLD	-	-	None	0
	Other Gammas		15-30	<LLD	-	-	None	0
Surface Water (pCi/L)	Gross Beta	6	4	<LLD	-	-	<LLD	0
	Gamma Spec.	6						
	Cs-134		15	<LLD	-	-	<LLD	0
	Cs-137		18	<LLD	-	-	<LLD	0
	Other ODCM- Required Gammas		15-30	<LLD	-	-	<LLD	0
	Tritium	2	200	<LLD	-	-	<LLD	0
Well Water (pCi/L)	Tritium	2	200	<LLD	-	-	None	0
	Gamma Spec.	2						
	Cs-134		15	<LLD	-	-	None	0
	Cs-137		18	<LLD	-	-	None	0
	Other ODCM- Required Gammas		15-30	<LLD	-	-	None	0
Gamma Background (TLDs) (mR/Qtr.)	Gamma Dose	82	9.7	15.8 (80/80) (14.0-19.6)	Q-211-1 4.5 mi. SW, Sector L	19.6 (1/1)	15.4 (2/2) (15.2-15.6)	0

^a Mean and range based on detectable measurements only. Fractions indicated in parentheses.

Table 5.0-4

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM QUARTERLY SUMMARY

Name of Facility: Quad Cities Nuclear Power StationDocket No. 50-254, 50-2654Location of Facility: Rock Island, IllinoisReporting Period: 2nd Quarter 2000

(County, State)

Sample Type (Units)	Type and Number of Analyses	LLD	Indicator Locations Mean ^a Range	Location with Highest Quarterly Mean	Highest Mean ^a Range	Control Locations Mean ^a Range	Number of Non-routine Results	
Air Particulates (pCi/m ³)	Gross Beta	65	0.01	0.019 (52/52) (0.011-0.027)	Q-04, Nitrin 1.7 mi. NE, Sector C	0.020 (13/13) (0.014-0.026)	0.019 (13/13) (0.014-0.024)	0
	Gamma Spec.	5						
	Cs-134		0.01	<LLD	-	-	<LLD	0
	Cs-137		0.01	<LLD	-	-	<LLD	0
	Other Gammas		0.01-0.04	<LLD	-	-	<LLD	0
Airborne Iodine (pCi/m ³)	I-131	30	0.07	<LLD	-	-	<LLD	0
Milk (pCi/L)	I-131	6	0.5/5 ^b	<LLD	-	-	None	0
	Gamma Spec.	6						
	Cs-134		15	<LLD	-	-	None	0
	Cs-137		18	<LLD	-	-	None	0
	Ba/La-140		15	<LLD	-	-	None	0
	Other Gammas		15-30	<LLD	-	-	None	0
Fish (pCi/g wet)	Gamma Spec.	9						
	Cs-134		0.10	<LLD	-	-	<LLD	0
	Cs-137		0.10	<LLD	-	-	<LLD	0
	Other ODCM- Required Gammas		0.13-0.26	<LLD	-	-	<LLD	0
	Other Gammas		0.20-0.30	<LLD	-	-	<LLD	0
Sediments (pCi/g wet)	Gamma Spec.	1						
	Cs-134		0.15	<LLD	-	-	None	0
	Cs-137		0.18	<LLD	-	-	None	0
	Other Gammas		0.10-0.60	<LLD	-	-	None	0
Surface Water (pCi/L)	Gross Beta	6	4	5.1 (1/3)	Q-33, Cordova, 3.3 mi. SSW, Sector K	5.1 (1/3)	4.4 (1/3)	0
	Gamma Spec.	6						
	Cs-134		15	<LLD	-	-	<LLD	0
	Cs-137		18	<LLD	-	-	<LLD	0
	Other ODCM- Required Gammas		15-30	<LLD	-	-	<LLD	0
	Tritium	2	200	<LLD	-	-	<LLD	0

^a Mean and range based on detectable measurements only. Fractions indicated in parentheses.^b 0.5 pCi/L (May-October); 5.0 pCi/L (November-April).

Table 5.0-4 (continued)

Name of Facility: Quad Cities Nuclear Power StationDocket No. 50-254, 50-265Location of Facility: Rock Island, IllinoisReporting Period: 2nd Quarter 2000

(County, State)

Sample Type (Units)	Type and Number of Analyses		LLD	Indicator Locations Mean ^a Range	Location with Highest Quarterly Mean	Highest Mean ^a Range	Control Locations Mean ^a Range	Number of Non-routine Results
Well Water (pCi/L)	Tritium	2	200	<LLD	-	-	None	0
	Gamma Spec.	2						
	Cs-134		15	<LLD	-	-	None	0
	Cs-137		18	<LLD	-	-	None	0
	Other ODCM- Required Gammas		15-30	<LLD	-	-	None	0
Gamma Background (TLDs) (mR/Qtr.)	Gamma Dose	82	9.7	15.9 (80/80) (13.7-19.5)	Q-211-1 4.5 mi. SW, Sector L	19.5 (1/1)	15.6 (2/2) (15.0-16.1)	0

^a Mean and range based on detectable measurements only. Fractions indicated in parentheses.

Table 5.0-5

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM QUARTERLY SUMMARY

Name of Facility: Quad Cities Nuclear Power StationDocket No. 50-254, 50-265Location of Facility: Rock Island, IllinoisReporting Period: 3rd Quarter 2000

(County, State)

Sample Type (Units)	Type and Number of Analyses	LLD	Indicator Locations Mean ^a Range	Location with Highest Quarterly Mean	Highest Mean ^a Range	Control Locations Mean ^a Range	Number of Non-routine Results
Air Particulates (pCi/m ³)	Gross Beta	65	0.01	0.026 (52/52) (0.014-0.049)	Q-01 ^b , Onsite No. 1 0.5 mi. N, Sector A	0.026 (13/13) (0.017-0.049)	0
	Gamma Spec.	5					
	Cs-134		0.01	<LLD	-	-	0
	Cs-137		0.01	<LLD	-	-	0
	Other Gammas		0.01-0.04	<LLD	-	<LLD	0
Airborne Iodine (pCi/m ³)	I-131	35	0.07	<LLD	-	-	0
Milk (pCi/L)	I-131	7	0.5	<LLD	-	-	0
	Gamma Spec.	7					
	Cs-134		15	<LLD	-	-	0
	Cs-137		18	<LLD	-	-	0
	Ba/La-140		15	<LLD	-	-	0
	Other Gammas		15-30	<LLD	-	-	0
Vegetation (pCi/g wet)	I-131	5	0.06	<LLD	-	-	0
	Gamma Spec.	10					
	Cs-134		0.06	<LLD	-	-	0
	Cs-137		0.08	<LLD	-	-	0
	Other Gammas		0.01-0.10	<LLD	-	-	0
Surface Water (pCi/L)	Gross Beta	6	4	4.2 (1/3)	Q-33, Cordova, 3.3 mi. SSW, Sector K	4.2 (1/3)	0
	Gamma Spec.	6					
	Cs-134		15	<LLD	-	-	0
	Cs-137		18	<LLD	-	-	0
	Other ODCM- Required Gammas		15-30	<LLD	-	-	0
	Tritium	2	200	<LLD	-	-	0
Well Water (pCi/L)	Tritium	2	200	<LLD	-	-	0
	Gamma Spec.	2					
	Cs-134		15	<LLD	-	-	0
	Cs-137		18	<LLD	-	-	0
	Other ODCM- Required Gammas		15-30	<LLD	-	-	0

^a Mean and range based on detectable measurements only. Fractions indicated in parentheses.

Table 5.0-5 (continued)

Name of Facility: Quad Cities Nuclear Power StationDocket No. 50-254, 50-265Location of Facility: Rock Island, IllinoisReporting Period: 3rd Quarter 2000

(County, State)

Sample Type (Units)	Type and Number of Analyses	LLD	Indicator Locations Mean ^a Range	Location with Highest Quarterly Mean	Highest Mean ^a Range	Control Locations Mean ^a Range	Number of Non-routine Results
Gamma Background (TLDs) (mR/Qtr.)	Gamma Dose	82	9.7 15.1 (80/80) (13.1-17.9)	Q-211-1 ^c 4.5 mi. SW, Sector L	17.9 (1/1)	14.2 (2/2) (14.1-14.3)	0

^a Mean and range based on detectable measurements only. Fractions indicated in parentheses.^b All locations had identical means of 0.026 pCi/m³. Q-01 and Q-07 (C) are detailed in this summary.^c Locations Q-211-1 and Q-211-2 had identical results of 17.9 mR. Only Q-211-1 is detailed in this summary.

Table 5.0-6

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM QUARTERLY SUMMARY

Name of Facility: Quad Cities Nuclear Power StationDocket No. 50-254, 50-269Location of Facility: Rock Island, IllinoisReporting Period: 4th Quarter 2000

(County, State)

Sample Type (Units)	Type and Number of Analyses	LLD	Indicator Locations Mean ^a Range	Location with Highest Quarterly Mean	Highest Mean ^a Range	Control Locations Mean ^a Range	Number of Non-routine Results	
Air Particulates (pCi/m ³)	Gross Beta	65	0.01	0.035 (52/52) (0.019-0.053)	Q-07, Clinton 8.9 mi. NE, Sector C	0.038 (14/14) (0.023-0.054)	0	
	Gamma Spec.	5						
	Cs-134		0.01	<LLD	-	-	<LLD	0
	Cs-137		0.01	<LLD	-	-	<LLD	0
	Other Gammas		0.01-0.04	<LLD	-	-	<LLD	0
Airborne Iodine (pCi/m ³)	I-131	30	0.07	<LLD	-	-	<LLD	0
Milk (pCi/L)	I-131	5	0.5/5 ^b	<LLD	-	-	<LLD	0
	Gamma Spec.	5						
	Cs-134		15	<LLD	-	-	<LLD	0
	Cs-137		18	<LLD	-	-	<LLD	0
	Ba/La-140		15	<LLD	-	-	<LLD	0
	Other Gammas		15-30	<LLD	-	-	<LLD	0
Fish (pCi/g wet)	Gamma Spec.	9						
	Cs-134		0.10	<LLD	-	-	<LLD	0
	Cs-137		0.10	<LLD	-	-	<LLD	0
	Other ODCM- Required Gammas		0.13-0.26	<LLD	-	-	<LLD	0
	Other Gammas		0.20-0.30	<LLD	-	-	<LLD	0
Sediments (pCi/g wet)	Gamma Spec.	1						
	Cs-134		0.15	<LLD	-	-	None	0
	Cs-137		0.18	<LLD	-	-	None	0
	Other Gammas		0.10-0.60	<LLD	-	-	None	0
Surface Water (pCi/L)	Gross Beta	6	4	4.3 (1/3)	Q-33, Cordova, 3.3 mi. SSW, Sector K	4.3 (1/3)	<LLD	0
	Gamma Spec.	6						
	Cs-134		15	<LLD	-	-	<LLD	0
	Cs-137		18	<LLD	-	-	<LLD	0
	Other ODCM- Required Gammas		15-30	<LLD	-	-	<LLD	0
	Tritium	2	200	<LLD	-	-	<LLD	0

^a Mean and range based on detectable measurements only. Fractions indicated in parentheses.^b 0.5 pCi/L (May-October); 5.0 pCi/L (November-April).

Table 5.0-6 (continued)

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM QUARTERLY SUMMARY

Name of Facility: Quad Cities Nuclear Power StationDocket No. 50-254, 50-269Location of Facility: Rock Island, IllinoisReporting Period: 4th Quarter 2000

(County, State)

(County, State)								
Sample Type (Units)	Type and Number of Analyses		LLD	Indicator Locations Mean ^a Range	Location with Highest Quarterly Mean	Highest Mean ^a Range	Control Locations Mean ^a Range	Number of Non-routine Results
Well Water (pCi/L)	Tritium	2	200	<LLD	-	-	None	0
	Gamma Spec.	2						
	Cs-134		15	<LLD	-	-	None	0
	Cs-137		18	<LLD	-	-	None	0
	Other ODCM- Required Gammas		15-30	<LLD	-	-	None	0
Gamma Background (TLDs) (mR/Qtr.)	Gamma Dose	82	9.7	16.6 (80/80) (14.6-20.5)	Q-211-2, 4.5 mi. SW, Sector L	20.5 (1/1)	16.5 (2/2) (16.0-17.0)	0

^a Mean and range based on detectable measurements only. Fractions indicated in parentheses.

QUAD CITIES

APPENDIX II

METEOROLOGICAL DATA

QUAD CITIES NUCLEAR POWER STATION

PERIOD OF RECORD: JANUARY-MARCH 2000

STABILITY CLASS - EXTREMELY UNSTABLE (DIFF TEMP 296-33 FT)
WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	0	1	3	0	0	0	4
NNE	0	0	0	6	0	0	6
NE	0	0	0	1	0	0	1
ENE	0	0	1	0	0	0	1
E	0	0	0	2	0	0	2
ESE	0	0	0	5	1	0	6
SE	0	0	1	2	2	0	5
SSE	0	0	1	6	0	0	7
S	0	0	0	1	6	2	9
SSW	0	1	1	6	2	0	10
SW	0	0	6	5	0	0	11
WSW	0	2	5	5	0	0	12
W	0	2	1	4	3	0	10
WNW	0	0	0	0	5	2	7
NW	0	1	0	1	1	0	3
NNW	0	0	0	1	1	0	2
VARIABLE	0	0	0	0	0	0	0
TOTAL	0	7	19	45	21	4	96

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

QUAD CITIES NUCLEAR POWER STATION

PERIOD OF RECORD: JANUARY-MARCH 2000

STABILITY CLASS - MODERATELY UNSTABLE (DIFF TEMP 296-33 FT)
WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	0	3	1	2	0	0	6
NNE	0	0	1	1	0	0	2
NE	0	4	1	0	0	0	5
ENE	0	1	1	0	0	0	2
E	0	0	0	0	0	0	0
ESE	0	0	1	2	0	0	3
SE	0	0	0	1	1	0	2
SSE	0	0	2	1	1	0	4
S	0	0	1	1	5	1	8
SSW	0	1	1	0	1	0	3
SW	0	4	1	1	0	0	6
WSW	0	3	3	3	2	0	11
W	0	3	1	5	4	1	14
WNW	1	5	0	2	5	2	15
NW	0	3	6	3	1	0	13
NNW	0	2	0	3	2	0	7
VARIABLE	0	0	0	0	0	0	0
TOTAL	1	29	20	25	22	4	101

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

QUAD CITIES NUCLEAR POWER STATION

PERIOD OF RECORD: JANUARY-MARCH 2000

STABILITY CLASS - SLIGHTLY UNSTABLE (DIFF TEMP 296-33 FT)
WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	1	1	2	3	0	0	7
NNE	0	3	1	2	0	0	6
NE	0	1	0	4	0	0	5
ENE	0	1	0	0	0	0	1
E	0	2	3	1	0	0	6
ESE	0	0	1	3	0	0	4
SE	0	1	1	0	0	0	2
SSE	0	1	2	6	1	0	10
S	0	0	1	3	2	1	7
SSW	0	4	1	3	1	0	9
SW	1	2	2	5	0	1	11
WSW	0	6	1	9	2	0	18
W	0	1	4	6	7	0	18
WNW	0	0	5	4	6	2	17
NW	0	3	4	6	0	0	13
NNW	0	5	5	7	3	0	20
VARIABLE	0	0	0	0	0	0	0
TOTAL	2	31	33	62	22	4	154

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 0
 Hours of missing stability measurements in all stability classes: 0

QUAD CITIES NUCLEAR POWER STATION

PERIOD OF RECORD: JANUARY-MARCH 2000

STABILITY CLASS - NEUTRAL (DIFF TEMP 296-33 FT)
WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	1	7	24	28	6	0	66
NNE	1	4	14	23	6	0	48
NE	1	6	14	46	8	0	75
ENE	2	3	14	39	9	0	67
E	0	12	22	23	4	0	61
ESE	0	5	10	13	12	1	41
SE	1	7	18	8	3	2	39
SSE	2	7	10	5	17	2	43
S	1	6	7	9	9	6	38
SSW	1	5	4	8	10	2	30
SW	1	4	10	21	7	3	46
WSW	2	5	8	27	9	4	55
W	4	3	10	33	21	11	82
WNW	0	2	12	42	45	15	116
NW	0	3	11	44	23	4	85
NNW	2	6	6	30	16	1	61
VARIABLE	0	0	0	0	0	0	0
TOTAL	19	85	194	399	205	51	953

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 0
 Hours of missing stability measurements in all stability classes: 0

QUAD CITIES NUCLEAR POWER STATION

PERIOD OF RECORD: JANUARY-MARCH 2000

STABILITY CLASS - SLIGHTLY STABLE (DIFF TEMP 296-33 FT)
WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	0	6	9	19	0	0	34
NNE	1	4	5	3	0	0	13
NE	1	3	6	2	1	0	13
ENE	1	4	3	5	0	0	13
E	1	5	20	3	0	0	29
ESE	2	2	11	7	17	0	39
SE	0	2	6	11	5	0	24
SSE	0	3	14	12	15	2	46
S	2	8	10	30	12	6	68
SSW	1	4	18	30	17	4	74
SW	0	4	5	23	13	5	50
WSW	1	1	4	26	2	2	36
W	0	0	5	31	13	0	49
WNW	1	3	7	31	3	0	45
NW	1	2	4	26	0	0	33
NNW	0	4	4	16	0	0	24
VARIABLE	0	0	0	0	0	0	0
TOTAL	12	55	131	275	98	19	590

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 0
 Hours of missing stability measurements in all stability classes: 0

QUAD CITIES NUCLEAR POWER STATION

PERIOD OF RECORD: JANUARY-MARCH 2000

STABILITY CLASS - MODERATELY STABLE (DIFF TEMP 296-33 FT)
WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	0	1	1	1	0	0	3
NNE	0	2	8	1	0	0	11
NE	0	1	2	0	0	0	3
ENE	0	4	5	0	0	0	9
E	1	2	7	2	0	0	12
ESE	3	3	3	6	4	0	19
SE	2	1	4	1	4	0	12
SSE	0	1	4	8	2	0	15
S	1	4	6	18	8	0	37
SSW	0	2	6	8	6	0	22
SW	1	0	2	3	0	0	6
WSW	0	1	3	3	0	0	7
W	0	0	4	1	1	0	6
WNW	0	1	3	7	0	0	11
NW	0	1	4	5	0	0	10
NNW	0	2	7	1	0	0	10
VARIABLE	0	0	0	0	0	0	0
TOTAL	8	26	69	65	25	0	193

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

QUAD CITIES NUCLEAR POWER STATION

PERIOD OF RECORD: JANUARY-MARCH 2000

STABILITY CLASS - EXTREMELY STABLE (DIFF TEMP 296-33 FT)
WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	0	0	0	0	0
NNE	0	4	0	0	0	0	4
NE	0	3	5	0	0	0	8
ENE	1	0	4	0	0	0	5
E	2	1	2	1	0	0	6
ESE	1	1	5	0	0	0	7
SE	0	6	1	0	0	0	7
SSE	1	4	2	1	0	0	8
S	0	4	5	13	1	0	23
SSW	1	0	1	12	0	0	14
SW	1	0	0	0	0	0	1
WSW	0	0	0	0	0	0	0
W	1	0	0	0	0	0	1
WNW	1	0	0	0	0	0	1
NW	0	3	3	3	1	0	10
NNW	0	1	0	0	0	0	1
VARIABLE	0	0	0	0	0	0	0
TOTAL	9	27	28	30	2	0	96

Hours of calm in this stability class: 1
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

QUAD CITIES NUCLEAR POWER STATION

PERIOD OF RECORD: APRIL-JUNE 2000

STABILITY CLASS - EXTREMELY UNSTABLE (DIFF TEMP 296-33 FT)
WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	0	1	2	1	0	0	4
NNE	0	0	0	1	0	0	1
NE	0	1	3	3	1	0	8
ENE	0	0	3	1	3	0	7
E	0	0	0	0	1	0	1
ESE	0	0	0	0	1	0	1
SE	0	0	4	4	0	0	8
SSE	0	2	6	4	2	1	15
S	0	1	8	13	3	0	25
SSW	0	14	23	36	14	4	91
SW	0	3	4	2	1	0	10
WSW	0	2	3	8	2	0	15
W	0	2	3	7	1	1	14
WNW	0	2	2	23	6	3	36
NW	0	2	6	16	2	1	27
NNW	0	5	1	5	3	0	14
VARIABLE	0	0	0	0	0	0	0
TOTAL	0	35	68	124	40	10	277

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 0
 Hours of missing stability measurements in all stability classes: 7

QUAD CITIES NUCLEAR POWER STATION

PERIOD OF RECORD: APRIL-JUNE 2000

STABILITY CLASS - MODERATELY UNSTABLE (DIFF TEMP 296-33 FT)
WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	2	0	0	0	2
NNE	0	0	4	3	0	0	7
NE	0	3	7	0	0	0	10
ENE	0	4	0	1	1	0	6
E	0	0	2	0	2	0	4
ESE	0	0	0	2	1	0	3
SE	0	0	3	2	0	0	5
SSE	0	4	1	2	0	1	8
S	0	2	5	0	3	1	11
SSW	0	11	8	8	2	1	30
SW	1	6	2	0	3	0	12
WSW	0	6	1	1	1	0	9
W	0	4	1	3	4	4	16
WNW	0	5	0	5	6	3	19
NW	0	4	7	4	2	0	17
NNW	0	5	3	3	1	0	12
VARIABLE	0	0	0	0	0	0	0
TOTAL	1	54	46	34	26	10	171

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 7

QUAD CITIES NUCLEAR POWER STATION

PERIOD OF RECORD: APRIL-JUNE 2000

STABILITY CLASS - SLIGHTLY UNSTABLE (DIFF TEMP 296-33 FT)
WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	0	1	0	2	0	0	3
NNE	0	0	1	1	0	0	2
NE	0	1	3	2	2	0	8
ENE	0	2	1	5	1	0	9
E	1	0	0	4	0	0	5
ESE	1	1	0	1	1	0	4
SE	0	2	2	0	1	0	5
SSE	0	3	3	1	0	1	8
S	0	5	2	2	2	0	11
SSW	0	8	7	8	4	0	27
SW	0	5	0	2	2	1	10
WSW	1	0	0	2	0	0	3
W	1	2	5	3	2	1	14
WNW	1	3	4	3	3	1	15
NW	1	3	1	2	2	0	9
NNW	0	1	5	4	0	0	10
VARIABLE	0	0	0	0	0	0	0
TOTAL	6	37	34	42	20	4	143

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 7

QUAD CITIES NUCLEAR POWER STATION

PERIOD OF RECORD: APRIL-JUNE 2000

STABILITY CLASS - NEUTRAL (DIFF TEMP 296-33 FT)
WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	1	4	15	19	13	1	53
NNE	1	2	9	16	13	0	41
NE	3	5	10	17	12	1	48
ENE	0	5	13	25	8	0	51
E	3	9	23	15	7	0	57
ESE	0	3	16	25	6	6	56
SE	0	3	8	11	3	0	25
SSE	1	6	11	17	9	1	45
S	5	3	16	16	5	3	48
SSW	1	9	14	41	10	3	78
SW	3	5	11	12	7	3	41
WSW	1	3	11	10	8	1	34
W	1	2	8	22	8	4	45
WNW	3	3	14	15	9	9	53
NW	1	4	15	16	17	0	53
NNW	3	7	15	17	13	5	60
VARIABLE	0	0	0	0	0	0	0
TOTAL	27	73	209	294	148	37	788

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 7

QUAD CITIES NUCLEAR POWER STATION

PERIOD OF RECORD: APRIL-JUNE 2000

STABILITY CLASS - SLIGHTLY STABLE (DIFF TEMP 296-33 FT)
WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	1	1	3	2	1	0	8
NNE	0	3	4	3	2	0	12
NE	0	1	5	6	1	1	14
ENE	0	0	3	11	0	0	14
E	0	1	5	5	0	1	12
ESE	0	2	6	8	3	4	23
SE	1	2	9	17	4	0	33
SSE	0	5	13	17	7	1	43
S	1	4	12	32	10	2	61
SSW	2	4	15	46	18	2	87
SW	2	3	9	11	8	0	33
WSW	1	1	6	7	1	1	17
W	1	7	12	14	7	1	42
WNW	0	2	16	14	3	0	35
NW	0	5	13	26	2	0	46
NNW	0	3	5	6	0	0	14
VARIABLE	0	0	0	0	0	0	0
TOTAL	9	44	136	225	67	13	494

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 7

QUAD CITIES NUCLEAR POWER STATION

PERIOD OF RECORD: APRIL-JUNE 2000

STABILITY CLASS - MODERATELY STABLE (DIFF TEMP 296-33 FT)
WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	1	1	0	1	0	0	3
NNE	0	1	4	2	0	0	7
NE	2	4	5	4	1	0	16
ENE	1	1	1	2	0	0	5
E	3	2	2	1	0	0	8
ESE	0	4	1	3	0	0	8
SE	1	3	6	12	1	0	23
SSE	0	1	8	10	4	0	23
S	0	4	5	15	1	1	26
SSW	0	0	8	19	2	0	29
SW	0	1	5	9	0	0	15
WSW	0	2	4	5	0	0	11
W	1	2	3	3	0	0	9
WNW	2	2	7	9	0	0	20
NW	0	0	2	6	0	0	8
NNW	0	2	3	1	0	0	6
VARIABLE	0	0	0	0	0	0	0
TOTAL	11	30	64	102	9	1	217

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 0
 Hours of missing stability measurements in all stability classes: 7

QUAD CITIES NUCLEAR POWER STATION

PERIOD OF RECORD: APRIL-JUNE 2000

STABILITY CLASS - EXTREMELY STABLE (DIFF TEMP 296-33 FT)
WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	0	1	2	1	0	0	4
NNE	0	2	2	0	0	0	4
NE	1	0	0	0	0	0	1
ENE	0	0	0	0	0	0	0
E	0	0	1	0	0	0	1
ESE	1	2	0	0	0	0	3
SE	0	1	0	0	0	0	1
SSE	0	0	1	2	1	0	4
S	1	5	2	3	1	0	12
SSW	1	1	4	6	0	0	12
SW	1	2	6	4	0	0	13
WSW	1	2	3	0	0	0	6
W	1	3	1	1	0	0	6
WNW	3	3	1	1	0	0	8
NW	1	2	3	3	0	0	9
NNW	1	1	1	0	0	0	3
VARIABLE	0	0	0	0	0	0	0
TOTAL	12	25	27	21	2	0	87

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 7

QUAD CITIES NUCLEAR POWER STATION

PERIOD OF RECORD: JULY-SEPTEMBER 2000

STABILITY CLASS - EXTREMELY UNSTABLE (DIFF TEMP 296-33 FT)
WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	0	10	9	8	0	0	27
NNE	0	1	7	3	0	0	11
NE	0	1	4	1	0	0	6
ENE	0	5	4	0	0	0	9
E	0	2	18	3	0	0	23
ESE	0	2	12	5	0	0	19
SE	0	2	7	7	0	0	16
SSE	0	3	14	6	0	0	23
S	1	8	7	11	0	0	27
SSW	0	5	12	15	3	0	35
SW	0	3	5	6	0	0	14
WSW	0	8	4	4	0	0	16
W	0	10	6	1	0	0	17
WNW	0	12	7	4	0	0	23
NW	0	9	19	4	0	0	32
NNW	0	9	13	2	0	0	24
VARIABLE	0	0	0	0	0	0	0
TOTAL	1	90	148	80	3	0	322

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 8
Hours of missing stability measurements in all stability classes: 19

QUAD CITIES NUCLEAR POWER STATION

PERIOD OF RECORD: JULY-SEPTEMBER 2000

STABILITY CLASS - MODERATELY UNSTABLE (DIFF TEMP 296-33 FT)
WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	0	5	5	3	0	0	13
NNE	0	4	5	1	0	0	10
NE	1	3	2	2	1	0	9
ENE	0	2	3	1	0	0	6
E	0	5	6	2	0	0	13
ESE	0	5	8	2	1	0	16
SE	0	3	7	6	0	0	16
SSE	0	5	2	3	0	0	10
S	0	3	4	3	0	0	10
SSW	0	4	3	9	4	0	20
SW	0	4	2	3	0	0	9
WSW	1	5	5	0	0	0	11
W	1	4	2	1	0	0	8
WNW	1	1	5	1	0	0	8
NW	0	5	3	3	0	0	11
NNW	1	4	3	0	0	0	8
VARIABLE	0	0	0	0	0	0	0
TOTAL	5	62	65	40	6	0	178

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 2
Hours of missing stability measurements in all stability classes: 19

QUAD CITIES NUCLEAR POWER STATION

PERIOD OF RECORD: JULY-SEPTEMBER 2000

STABILITY CLASS - SLIGHTLY UNSTABLE (DIFF TEMP 296-33 FT)
WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	6	1	0	0	7
NNE	2	0	6	0	0	0	8
NE	0	3	5	3	0	0	11
ENE	0	0	2	0	0	0	2
E	0	2	3	2	0	0	7
ESE	1	4	7	3	0	0	15
SE	0	2	4	0	0	0	6
SSE	0	3	1	1	0	0	5
S	0	2	4	4	0	0	10
SSW	0	1	9	7	0	1	18
SW	1	3	0	3	0	0	7
WSW	1	1	1	0	0	0	3
W	1	5	1	0	1	0	8
WNW	1	1	1	0	0	0	3
NW	0	2	2	0	0	0	4
NNW	2	0	2	0	0	0	4
VARIABLE	0	0	0	0	0	0	0
TOTAL	9	29	54	24	1	1	118

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 19

QUAD CITIES NUCLEAR POWER STATION

PERIOD OF RECORD: JULY-SEPTEMBER 2000

STABILITY CLASS - NEUTRAL (DIFF TEMP 296-33 FT)
WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	1	7	22	12	0	0	42
NNE	1	5	19	7	1	0	33
NE	2	9	19	14	3	0	47
ENE	1	5	15	19	1	0	41
E	1	7	21	5	1	0	35
ESE	1	13	18	20	2	0	54
SE	0	7	6	9	1	0	23
SSE	0	5	10	7	1	0	23
S	1	5	7	13	2	0	28
SSW	1	3	8	14	9	0	35
SW	0	2	10	19	2	0	33
WSW	1	4	7	4	1	0	17
W	1	7	10	3	5	0	26
WNW	1	9	8	2	3	0	23
NW	1	8	10	11	1	0	31
NNW	0	7	15	7	2	0	31
VARIABLE	0	0	0	0	0	0	0
TOTAL	13	103	205	166	35	0	522

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 16
 Hours of missing stability measurements in all stability classes: 19

QUAD CITIES NUCLEAR POWER STATION

PERIOD OF RECORD: JULY-SEPTEMBER 2000

STABILITY CLASS - SLIGHTLY STABLE (DIFF TEMP 296-33 FT)
WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	0	8	18	12	1	0	39
NNE	0	8	14	10	0	0	32
NE	0	3	6	9	4	0	22
ENE	2	4	21	13	0	0	40
E	1	6	29	7	0	0	43
ESE	1	2	7	28	3	0	41
SE	0	1	13	17	1	0	32
SSE	0	5	15	14	0	0	34
S	1	4	16	36	5	1	63
SSW	0	4	16	47	16	0	83
SW	1	2	9	27	12	0	51
WSW	1	5	7	4	1	0	18
W	0	2	7	10	0	0	19
WNW	0	4	9	8	0	0	21
NW	0	3	14	8	0	0	25
NNW	0	5	9	16	0	0	30
VARIABLE	0	0	0	0	0	0	0
TOTAL	7	66	210	266	43	1	593

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 24
Hours of missing stability measurements in all stability classes: 19

QUAD CITIES NUCLEAR POWER STATION

PERIOD OF RECORD: JULY-SEPTEMBER 2000

STABILITY CLASS - MODERATELY STABLE (DIFF TEMP 296-33 FT)
WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	2	4	7	2	0	0	15
NNE	3	3	4	2	0	0	12
NE	2	6	5	5	0	0	18
ENE	0	3	2	2	0	0	7
E	1	7	6	1	0	0	15
ESE	0	8	2	12	1	0	23
SE	0	3	8	17	3	0	31
SSE	0	3	20	17	1	0	41
S	0	1	14	27	5	0	47
SSW	0	2	15	14	0	0	31
SW	1	3	2	6	0	0	12
WSW	2	0	7	0	0	0	9
W	0	0	2	2	0	0	4
WNW	0	0	2	7	0	0	9
NW	2	2	5	3	0	0	12
NNW	4	3	19	4	0	0	30
VARIABLE	0	0	0	0	0	0	0
TOTAL	17	48	120	121	10	0	316

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 1
 Hours of missing stability measurements in all stability classes: 19

QUAD CITIES NUCLEAR POWER STATION

PERIOD OF RECORD: JULY-SEPTEMBER 2000

STABILITY CLASS - EXTREMELY STABLE (DIFF TEMP 296-33 FT)
WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	1	3	1	0	0	0	5
NNE	1	1	2	0	0	0	4
NE	1	0	0	0	0	0	1
ENE	0	1	1	0	0	0	2
E	1	4	0	0	0	0	5
ESE	0	0	0	0	0	0	0
SE	1	2	1	3	1	0	8
SSE	1	3	7	2	2	0	15
S	0	3	13	10	0	0	26
SSW	0	3	8	3	0	0	14
SW	0	0	2	2	0	0	4
WSW	0	0	2	0	0	0	2
W	1	0	0	0	0	0	1
WNW	0	0	0	0	0	0	0
NW	0	1	0	0	0	0	1
NNW	1	0	0	0	0	0	1
VARIABLE	0	0	0	0	0	0	0
TOTAL	8	21	37	20	3	0	89

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 19

QUAD CITIES NUCLEAR POWER STATION

PERIOD OF RECORD: OCTOBER-DECEMBER 2000

STABILITY CLASS - EXTREMELY UNSTABLE (DIFF TEMP 296-33 FT)
WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	3	1	0	0	4
ENE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	0	0	1	0	0	1
SE	0	0	0	2	0	0	2
SSE	0	0	2	2	0	0	4
S	0	0	1	4	4	1	10
SSW	0	0	8	10	3	0	21
SW	0	0	7	3	0	0	10
WSW	0	1	2	2	0	0	5
W	0	0	17	9	0	0	26
WNW	0	0	8	2	0	0	10
NW	0	0	6	10	2	0	18
NNW	0	1	0	6	0	0	7
VARIABLE	0	0	0	0	0	0	0
TOTAL	0	2	54	52	9	1	118

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 5

QUAD CITIES NUCLEAR POWER STATION

PERIOD OF RECORD: OCTOBER-DECEMBER 2000

STABILITY CLASS - MODERATELY UNSTABLE (DIFF TEMP 296-33 FT)
WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	0	0	0	0	0
NNE	0	1	0	0	0	0	1
NE	0	0	2	1	0	0	3
ENE	0	0	0	0	0	0	0
E	0	3	0	0	0	0	3
ESE	0	0	1	1	0	0	2
SE	0	0	1	2	1	0	4
SSE	0	0	0	1	0	1	2
S	0	0	3	0	1	0	4
SSW	0	1	2	3	2	0	8
SW	0	1	5	0	0	0	6
WSW	0	0	1	2	1	0	4
W	0	1	8	4	1	0	14
WNW	0	1	6	8	8	1	24
NW	0	2	2	8	0	0	12
NNW	0	3	0	2	0	0	5
VARIABLE	0	0	0	0	0	0	0
TOTAL	0	13	31	32	14	2	92

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 5

QUAD CITIES NUCLEAR POWER STATION

PERIOD OF RECORD: OCTOBER-DECEMBER 2000

STABILITY CLASS - SLIGHTLY UNSTABLE (DIFF TEMP 296-33 FT)
WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	0	0	1	3	0	0	4
NNE	0	4	0	0	0	0	4
NE	0	1	1	0	0	0	2
ENE	0	0	1	2	0	0	3
E	1	0	0	3	0	0	4
ESE	0	4	0	0	0	0	4
SE	0	2	3	1	1	0	7
SSE	1	1	1	4	0	0	7
S	1	2	3	1	0	0	7
SSW	1	1	1	1	3	0	7
SW	2	3	2	3	2	0	12
WSW	1	1	4	9	1	0	16
W	2	3	2	3	1	1	12
WNW	0	7	8	6	4	2	27
NW	0	2	5	12	1	0	20
NNW	0	0	1	2	0	0	3
VARIABLE	0	0	0	0	0	0	0
TOTAL	9	31	33	50	13	3	139

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 5

QUAD CITIES NUCLEAR POWER STATION

PERIOD OF RECORD: OCTOBER-DECEMBER 2000

STABILITY CLASS - NEUTRAL (DIFF TEMP 296-33 FT)
WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	0	4	12	12	3	0	31
NNE	0	3	16	20	5	0	44
NE	2	2	12	25	4	0	45
ENE	2	0	8	19	2	0	31
E	1	16	16	3	0	0	36
ESE	1	6	14	15	2	6	44
SE	1	6	20	12	13	8	60
SSE	1	4	19	18	8	1	51
S	3	8	11	10	4	0	36
SSW	2	2	9	13	8	1	35
SW	5	7	14	15	10	0	51
WSW	3	10	20	29	4	2	68
W	3	21	39	60	13	6	142
WNW	3	8	31	110	43	21	216
NW	2	7	26	61	40	4	140
NNW	1	0	9	28	12	2	52
VARIABLE	0	0	0	0	0	0	0
TOTAL	30	104	276	450	171	51	1082

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 8
 Hours of missing stability measurements in all stability classes: 5

QUAD CITIES NUCLEAR POWER STATION

PERIOD OF RECORD: OCTOBER-DECEMBER 2000

STABILITY CLASS - SLIGHTLY STABLE (DIFF TEMP 296-33 FT)
WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	1	1	16	7	0	0	25
NNE	3	1	3	3	1	0	11
NE	4	4	5	5	1	0	19
ENE	1	0	8	7	0	0	16
E	1	2	10	7	0	0	20
ESE	1	4	9	6	3	1	24
SE	0	3	9	8	7	1	28
SSE	0	4	15	5	3	2	29
S	0	5	13	17	7	2	44
SSW	0	4	8	33	17	3	65
SW	1	6	6	17	3	0	33
WSW	3	4	10	6	1	0	24
W	4	5	15	13	0	0	37
WNW	4	0	11	14	0	0	29
NW	0	2	20	20	0	0	42
NNW	2	2	7	11	0	0	22
VARIABLE	0	0	0	0	0	0	0
TOTAL	25	47	165	179	43	9	468

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 0
 Hours of missing stability measurements in all stability classes: 5

QUAD CITIES NUCLEAR POWER STATION

PERIOD OF RECORD: OCTOBER-DECEMBER 2000

STABILITY CLASS - MODERATELY STABLE (DIFF TEMP 296-33 FT)
WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	0	1	4	1	0	0	6
NNE	0	1	6	0	0	0	7
NE	1	4	2	2	2	0	11
ENE	1	1	3	1	0	0	6
E	1	5	3	0	0	0	9
ESE	1	4	6	7	0	0	18
SE	0	2	7	11	0	0	20
SSE	1	2	8	15	0	0	26
S	1	4	6	7	1	0	19
SSW	0	6	4	10	0	0	20
SW	0	2	6	6	0	0	14
WSW	0	0	7	3	1	0	11
W	0	0	4	13	0	0	17
WNW	0	0	1	1	0	0	2
NW	0	0	2	12	0	0	14
NNW	0	1	1	0	0	0	2
VARIABLE	0	0	0	0	0	0	0
TOTAL	6	33	70	89	4	0	202

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 5

QUAD CITIES NUCLEAR POWER STATION

PERIOD OF RECORD: OCTOBER-DECEMBER 2000

STABILITY CLASS - EXTREMELY STABLE (DIFF TEMP 296-33 FT)
WINDS MEASURED AT 296 FEET

WIND DIRECTION	WIND SPEED (in mph)						TOTAL
	0.9-3	4-7	8-12	13-18	19-24	> 24	
N	0	1	1	0	0	0	2
NNE	0	2	1	0	0	0	3
NE	1	4	2	0	0	0	7
ENE	0	2	2	0	0	0	4
E	0	2	0	0	0	0	2
ESE	0	0	2	2	0	0	4
SE	0	2	1	0	0	0	3
SSE	0	0	2	0	0	0	2
S	0	0	2	6	0	0	8
SSW	0	0	9	17	0	0	26
SW	0	4	2	4	0	0	10
WSW	1	0	3	2	1	0	7
W	0	2	5	2	0	0	9
WNW	0	2	1	0	0	0	3
NW	1	0	1	0	0	0	2
NNW	0	2	0	0	0	0	2
VARIABLE	0	0	0	0	0	0	0
TOTAL	3	23	34	33	1	0	94

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 0
 Hours of missing stability measurements in all stability classes: 5

QUAD CITIES

APPENDIX III

2000 REMP SAMPLE RESULTS

QUAD CITIES

TABLE OF CONTENTS

	List of Tables	III-3
1.0	INTRODUCTION	III-4
2.0	LISTING OF MISSED SAMPLES	III-5
3.0	LISTING OF SAMPLE ANOMALIES	III-6
4.0	TLD DATA	III-35
5.0	GRAPHS OF DATA TRENDS	III-39

QUAD CITIES

LIST OF TABLES

<u>No.</u>	<u>Title</u>	<u>Page</u>
1	Airborne Particulates and Iodine-131	III-7
2	Airborne Particulates, Quarterly Composites	III-12
3	Milk	III-15
4	Fish, Edible Portions	III-18
5	Bottom Sediments	III-21
6	Vegetables	III-22
7	Surface Water	III-25
8	Well Water	III-30
12	Milch Animals, Nearest Residence, and Nearest Livestock Census	III-31

QUAD CITIES

1.0 INTRODUCTION

The following constitutes the current, 2000 Monthly Progress Report for the Radiological Environmental Monitoring Program conducted at the Quad Cities Nuclear Power Station, Cordova, Illinois. Results of completed analyses are presented in the attached tables. Missing entries indicate analyses that are not completed and the results will appear in subsequent reports.

Missing tables indicate sample media scheduled for collection at a future date. Tables will appear in subsequent reports.

Data obtained in the program are well within the ranges previously encountered in the program and to be expected in the environmental media sampled.

For all gamma isotopic analyses, spectrum is computer scanned from 80 to 2048 keV. Specifically included are Mn-54, Fe-59, Co-58, Co-60, Zn-65, Zr/Nb-95, I-131, Ba/La-140, Cs-134 and Cs-137. Naturally occurring gamma-emitters, such as K-40 and Ra daughters, are frequently detected but not listed here. The data is reported in the format of $x \pm 2s; 2TPU$, where "x" is the significant result, "s" is the one standard deviation counting uncertainty, and TPU is the total propagated uncertainty at the one sigma confidence level.

Locations denoted by a "(C)" after site code refer to control locations.

All concentrations, except gross alpha and beta, are decay corrected to the time of collection.

TLD data is provided by Commonwealth Edison Company.

Deviations from Scheduled Sampling and Corrective Actions Taken

All samples were collected within the scheduled period unless noted otherwise in the Listing of Missed Samples.

Unusual Environmental Measurements

None for 2000.

QUAD CITIES

2.0 LISTING OF MISSED SAMPLES

Sample Type	Location Code	Expected Collection Date	Reason
SW	Q-33	01-14-00	No sample; water frozen.
SW	Q-34	01-14-00	No sample; water frozen.
SW	Q-33	01-22-00	No sample; river frozen.
SW	Q-34	01-22-00	No sample; river frozen.
SW	Q-33	01-29-00	No sample; river frozen.
SW	Q-34	01-29-00	No sample; river frozen.
AI	Q-01	02-04-00	No sample; planned power outage by ComEd.
SW	Q-33	02-05-00	No sample; river frozen.
SW	Q-34	02-05-00	No sample; river frozen.
SW	Q-33	02-12-00	No sample; river frozen.
SW	Q-34	02-12-00	No sample; river frozen.
SW	Q-33	02-19-00	No sample; river frozen.
SW	Q-34	02-19-00	No sample; river frozen.
TLD	Other	08-04-00	TLD Q-208-1 found missing; placed Spare #E0006944.
SW	Q-33	12-09-00	No sample; river frozen.
SW	Q-34	12-09-00	No sample; river frozen.
SW	Q-33	12-15-00	No sample; river frozen.
SW	Q-34	12-15-00	No sample; river frozen.
SW	Q-33	12-22-00	No sample; river frozen.
SW	Q-34	12-22-00	No sample; river frozen.
SW	Q-34	12-29-00	No sample; river frozen.
SW	Q-33	12-30-00	No sample; river frozen.

QUAD CITIES

3.0 LISTING OF SAMPLE ANOMALIES

Sample Type	Location Code	Collection Date	Reason
A	Q-01	01-28-00	Low reading of 99.2 due to planned power outage by ComEd.
A	Q-01	02-11-00	Low reading of 26.7 due to recent power restoration after planned outage by ComEd.
TLD	Other	06-30-00	2nd quarter TLD Q-107-2 found on ground during 3rd quarter exchange; packaging ripped.
A/I	Q-02	07-21-00	Low reading of 124.8 due to power outage; Station Point of Contact notified. Used 62 as FL_A for calculations (average for previous 4 weeks).
A	Q-02	07-28-00	Low reading of 134.8 due to recent power restoration.
A/I	Q-01	09-15-00	Collector found pump off; pump resumed operation after reset button hit. Low meter reading of 78.9.

QUAD CITIES

Table 1. Airborne Particulates and Iodine Cartridges
Collection: Airborne Particulates - Continuous; weekly exchange
Iodine Cartridges - Continuous; biweekly exchange
ODCM-
Required LLDs: 0.01 pCi/m³ for Gross Beta and 0.07 pCi/m³ for I-131
Units: 10⁻² pCi/m³

Q-01 Onsite No. 1							
Date Collected	Volume (m ³)	Gross Beta	I-131 ^a	Date Collected	Volume (m ³)	Gross Beta	I-131 ^a
01-07-00	281	4.5 ± 0.4; 0.9	-0.1 ± 0.5; 0.5	07-07-00	285	2.3 ± 0.3; 0.5	0.6 ± 0.3; 0.3
01-15-00	289	2.8 ± 0.4; 0.6	-	07-14-00	273	2.4 ± 0.4; 0.6	-
01-21-00	285	4.5 ± 0.4; 0.9	0.1 ± 0.3; 0.3	07-21-00	292	1.7 ± 0.3; 0.4	0.2 ± 0.3; 0.3
01-28-00	168 ^b	5.6 ± 0.7; 1.2	-	07-28-00	281	2.4 ± 0.3; 0.5	-
02-04-00	NS ^c	-	-	08-04-00	286	2.4 ± 0.3; 0.5	0.1 ± 0.4; 0.4
02-11-00	45. ^d	3.8 ± 1.4; 1.6	-	08-11-00	282	2.4 ± 0.3; 0.6	-
02-18-00	289	3.2 ± 0.4; 0.7	0.1 ± 0.8; 0.8	08-18-00	297	2.7 ± 0.3; 0.6	0.2 ± 0.3; 0.3
02-25-00	281	3.5 ± 0.4; 0.8	-	08-25-00	285	3.1 ± 0.4; 0.7	-
03-03-00	286	1.9 ± 0.3; 0.5	1.6 ± 0.5; 0.5	09-01-00	276	4.9 ± 0.4; 1.0	-1.0 ± 0.5; 0.5
03-10-00	285	2.7 ± 0.4; 0.6	-	09-08-00	290	2.9 ± 0.4; 0.6	-
03-17-00	287	2.7 ± 0.4; 0.6	0.0 ± 0.5; 0.5	09-15-00	134	1.8 ± 0.5; 0.6	0.3 ± 0.6; 0.6
03-24-00	285	1.9 ± 0.3; 0.5	-	09-22-00	289	3.0 ± 0.4; 0.7	-
03-31-00	284	1.4 ± 0.3; 0.4	-0.0 ± 0.5; 0.5	09-29-00	277	1.9 ± 0.4; 0.5	0.5 ± 0.4; 0.4
1st Qtr. Mean±s.d.		3.2±1.2	0.3±0.6	3rd Qtr. Mean±s.d.		2.6±0.8	0.1±0.5
04-07-00	283	2.0 ± 0.3; 0.5	-	10-06-00	327	3.2 ± 0.3; 0.7	-
04-14-00	285	1.8 ± 0.4; 0.5	-0.7 ± 0.5; 0.5	10-14-00	294	2.9 ± 0.3; 0.6	0.0 ± 0.4; 0.4
04-21-00	278	1.9 ± 0.3; 0.5	-	10-21-00	289	4.8 ± 0.4; 1.0	-
04-28-00	288	2.7 ± 0.4; 0.6	-0.4 ± 0.4; 0.4	10-27-00	227	5.3 ± 0.5; 1.1	-0.1 ± 0.5; 0.5
05-05-00	284	2.3 ± 0.4; 0.6	-	11-03-00	294	1.9 ± 0.4; 0.5	-
05-12-00	291	2.5 ± 0.3; 0.6	-0.6 ± 0.5; 0.5	11-10-00	285	2.1 ± 0.3; 0.5	0.4 ± 0.5; 0.5
05-19-00	287	2.1 ± 0.4; 0.5	-	11-17-00	285	3.1 ± 0.4; 0.7	-
05-26-00	285	2.0 ± 0.3; 0.5	-0.9 ± 0.5; 0.5	11-24-00	284	2.7 ± 0.4; 0.6	-0.6 ± 0.4; 0.4
06-02-00	283	2.0 ± 0.3; 0.5	-	12-02-00	326	4.6 ± 0.4; 0.9	-
06-09-00	293	1.7 ± 0.3; 0.5	0.3 ± 0.3; 0.3	12-09-00	285	2.4 ± 0.3; 0.5	-0.2 ± 0.4; 0.4
06-16-00	277	1.2 ± 0.3; 0.4	-	12-15-00	248	4.0 ± 0.4; 0.8	-
06-23-00	284	1.1 ± 0.3; 0.4	0.5 ± 0.4; 0.5	12-22-00	284	3.9 ± 0.4; 0.8	-0.5 ± 0.5; 0.5
06-30-00	284	1.5 ± 0.3; 0.4	-	12-29-00	285	4.8 ± 0.4; 1.0	-
2nd Qtr. Mean±s.d.		1.9±0.5	-0.3±0.6	4th Qtr. Mean±s.d.		3.5±1.1	-0.2±0.3

^a Volume based on a two week collection period.

^b Volume low due to ComEd planned power outage.

^c "NS" = No sample; planned power outage.

^d Volume low due to recent power restoration.

^e Volume low; pump found off; collector reset; meter read 78.9 at time of collection.

QUAD CITIES

Table 1. Airborne Particulates and Iodine Cartridges
 Collection: Airborne Particulates - Continuous; weekly exchange
 Iodine Cartridges - Continuous; biweekly exchange
 ODCM-
 Required LLDs: 0.01 pCi/m³ for Gross Beta and 0.07 pCi/m³ for I-131
 Units: 10⁻² pCi/m³

Q-02 Onsite No. 2							
Date Collected	Volume (m ³)	Gross Beta	I-131 ^a	Date Collected	Volume (m ³)	Gross Beta	I-131 ^a
01-07-00	281	4.1 ± 0.4; 0.9	0.2 ± 0.5; 0.5	07-07-00	286	2.0 ± 0.3; 0.5	0.5 ± 0.4; 0.4
01-15-00	289	2.9 ± 0.4; 0.7	-	07-14-00	273	2.2 ± 0.4; 0.6	-
01-21-00	284	4.4 ± 0.4; 0.9	-0.2 ± 0.2; 0.2	07-21-00	212 ^b	2.0 ± 0.4; 0.5	0.4 ± 0.4; 0.4
01-28-00	280	4.2 ± 0.5; 0.9	-	07-28-00	229 ^c	2.9 ± 0.4; 0.7	-
02-04-00	284	3.2 ± 0.4; 0.7	-0.3 ± 0.5; 0.5	08-04-00	286	2.6 ± 0.3; 0.6	0.2 ± 0.5; 0.5
02-11-00	285	4.6 ± 0.4; 0.9	-	08-11-00	282	2.5 ± 0.3; 0.6	-
02-18-00	289	2.6 ± 0.4; 0.6	-0.1 ± 0.5; 0.5	08-18-00	297	2.7 ± 0.3; 0.6	0.1 ± 0.3; 0.3
02-25-00	281	3.9 ± 0.5; 0.8	-	08-25-00	285	3.2 ± 0.4; 0.7	-
03-03-00	286	2.0 ± 0.3; 0.5	-0.1 ± 0.4; 0.4	09-01-00	276	4.9 ± 0.4; 1.0	0.2 ± 0.4; 0.4
03-10-00	285	2.8 ± 0.4; 0.6	-	09-08-00	290	3.1 ± 0.4; 0.7	-
03-17-00	287	2.7 ± 0.4; 0.6	0.1 ± 0.5; 0.5	09-15-00	283	1.4 ± 0.3; 0.4	0.7 ± 0.5; 0.5
03-24-00	285	1.5 ± 0.3; 0.4	-	09-22-00	289	2.8 ± 0.4; 0.6	-
03-31-00	284	1.5 ± 0.3; 0.4	0.0 ± 0.5; 0.5	09-29-00	277	1.9 ± 0.4; 0.5	-0.4 ± 0.5; 0.5
1st Qtr. Mean±s.d.		3.1±1.1	-0.0±0.2	3rd Qtr. Mean±s.d.		2.6±0.9	0.2±0.3
04-07-00	283	2.0 ± 0.3; 0.5	-	10-06-00	327	3.3 ± 0.3; 0.7	-
04-14-00	285	1.7 ± 0.4; 0.5	0.5 ± 0.5; 0.5	10-14-00	294	2.6 ± 0.3; 0.6	-0.3 ± 0.4; 0.4
04-21-00	278	1.4 ± 0.3; 0.4	-	10-21-00	289	5.0 ± 0.4; 1.0	-
04-28-00	288	2.2 ± 0.3; 0.5	0.5 ± 0.5; 0.5	10-27-00	227	5.1 ± 0.5; 1.0	-0.1 ± 0.5; 0.5
05-05-00	284	2.1 ± 0.4; 0.5	-	11-03-00	291	2.7 ± 0.4; 0.6	-
05-12-00	291	2.4 ± 0.3; 0.5	-2.0 ± 0.6; 0.7	11-10-00	285	2.4 ± 0.3; 0.6	0.4 ± 0.4; 0.5
05-19-00	287	1.6 ± 0.3; 0.5	-	11-17-00	285	3.5 ± 0.4; 0.8	-
05-26-00	285	1.6 ± 0.3; 0.4	0.1 ± 0.7; 0.7	11-24-00	284	2.4 ± 0.4; 0.6	0.7 ± 0.3; 0.4
06-02-00	283	1.5 ± 0.3; 0.4	-	12-02-00	326	4.4 ± 0.4; 0.9	-
06-09-00	293	2.1 ± 0.4; 0.5	0.4 ± 0.3; 0.3	12-09-00	285	2.5 ± 0.3; 0.6	0.1 ± 0.4; 0.4
06-16-00	282	1.3 ± 0.3; 0.4	-	12-15-00	248	3.5 ± 0.4; 0.8	-
06-23-00	284	1.5 ± 0.3; 0.4	-0.5 ± 0.4; 0.4	12-22-00	284	3.8 ± 0.4; 0.8	-0.4 ± 0.4; 0.4
06-30-00	284	1.6 ± 0.3; 0.4	-	12-29-00	285	4.1 ± 0.4; 0.8	-
2nd Qtr. Mean±s.d.		1.8±0.3	-0.2±1.0	4th Qtr. Mean±s.d.		3.5±0.9	0.1±0.4

^a Volume based on a two week collection period.

^b Volume low due to power outage; station notified.

^c Volume low due to recent power restoration.

QUAD CITIES

Table 1. Airborne Particulates and Iodine Cartridges
Collection: Airborne Particulates - Continuous; weekly exchange
Iodine Cartridges - Continuous; biweekly exchange
ODCM-
Required LLDs: 0.01 pCi/m³ for Gross Beta and 0.07 pCi/m³ for I-131
Units: 10⁻² pCi/m³

Q-03 Onsite No. 3							
Date Collected	Volume (m ³)	Gross Beta	I-131 ^a	Date Collected	Volume (m ³)	Gross Beta	I-131 ^a
01-07-00	281	3.6 ± 0.4; 0.8	-0.6 ± 0.5; 0.5	07-07-00	286	2.2 ± 0.3; 0.5	0.5 ± 0.4; 0.4
01-15-00	289	2.9 ± 0.4; 0.7	-	07-14-00	273	2.1 ± 0.4; 0.5	-
01-21-00	284	4.3 ± 0.4; 0.9	0.1 ± 0.3; 0.3	07-21-00	292	1.7 ± 0.3; 0.4	0.8 ± 0.3; 0.3
01-28-00	284	4.3 ± 0.5; 0.9	-	07-28-00	281	2.4 ± 0.3; 0.5	-
02-04-00	284	3.0 ± 0.4; 0.7	0.4 ± 0.5; 0.5	08-04-00	286	3.0 ± 0.4; 0.7	0.1 ± 0.4; 0.4
02-11-00	285	4.1 ± 0.4; 0.8	-	08-11-00	282	2.6 ± 0.4; 0.6	-
02-18-00	289	2.7 ± 0.4; 0.6	0.2 ± 0.5; 0.5	08-18-00	297	2.7 ± 0.3; 0.6	0.6 ± 0.4; 0.4
02-25-00	281	4.1 ± 0.5; 0.9	-	08-25-00	285	3.3 ± 0.4; 0.7	-
03-03-00	286	1.8 ± 0.3; 0.5	-0.0 ± 0.5; 0.5	09-01-00	276	4.6 ± 0.4; 0.9	-0.4 ± 0.4; 0.4
03-10-00	285	2.4 ± 0.4; 0.6	-	09-08-00	290	2.9 ± 0.4; 0.6	-
03-17-00	287	2.2 ± 0.4; 0.5	-0.7 ± 0.4; 0.5	09-15-00	283	1.5 ± 0.3; 0.4	0.4 ± 0.5; 0.5
03-24-00	285	1.9 ± 0.3; 0.5	-	09-22-00	289	3.1 ± 0.4; 0.7	-
03-31-00	284	1.4 ± 0.3; 0.4	0.0 ± 0.5; 0.5	09-29-00	277	1.9 ± 0.4; 0.5	-0.4 ± 0.5; 0.5
1st Qtr. Mean±s.d.		3.0±1.0	-0.1±0.4	3rd Qtr. Mean±s.d.		2.6±0.8	0.2±0.5
04-07-00	283	2.3 ± 0.3; 0.5	-	10-06-00	327	3.3 ± 0.3; 0.7	-
04-14-00	285	1.5 ± 0.3; 0.4	0.3 ± 0.4; 0.4	10-14-00	294	2.5 ± 0.3; 0.6	-0.2 ± 0.4; 0.4
04-21-00	273	1.3 ± 0.3; 0.4	-	10-21-00	288	5.0 ± 0.4; 1.0	-
04-28-00	288	2.6 ± 0.3; 0.6	1.5 ± 0.5; 0.5	10-27-00	227	4.9 ± 0.5; 1.0	-0.5 ± 0.5; 0.5
05-05-00	284	2.1 ± 0.4; 0.5	-	11-03-00	291	2.4 ± 0.4; 0.6	-
05-12-00	286	2.4 ± 0.3; 0.5	0.6 ± 0.5; 0.5	11-10-00	285	2.2 ± 0.3; 0.5	0.1 ± 0.4; 0.4
05-19-00	287	1.9 ± 0.4; 0.5	-	11-17-00	285	3.7 ± 0.4; 0.8	-
05-26-00	285	2.3 ± 0.3; 0.5	-0.6 ± 0.4; 0.4	11-24-00	284	2.3 ± 0.4; 0.5	-0.1 ± 0.4; 0.4
06-02-00	283	1.4 ± 0.3; 0.4	-	12-02-00	326	4.5 ± 0.4; 0.9	-
06-09-00	293	1.7 ± 0.3; 0.5	0.2 ± 0.3; 0.3	12-09-00	285	2.2 ± 0.3; 0.5	-0.8 ± 0.4; 0.4
06-16-00	282	1.3 ± 0.3; 0.4	-	12-15-00	248	3.6 ± 0.4; 0.8	-
06-23-00	284	1.4 ± 0.3; 0.4	-0.9 ± 0.5; 0.5	12-22-00	284	3.7 ± 0.4; 0.8	0.4 ± 0.4; 0.4
06-30-00	284	1.6 ± 0.3; 0.4	-	12-29-00	285	4.2 ± 0.4; 0.9	-
2nd Qtr. Mean±s.d.		1.8±0.4	0.2±0.9	4th Qtr. Mean±s.d.		3.4±1.0	-0.2±0.4

^a Volume based on a two week collection period.

QUAD CITIES

Table 1. Airborne Particulates and Iodine Cartridges
Collection: Airborne Particulates - Continuous; weekly exchange
Iodine Cartridges - Continuous; biweekly exchange
ODCM-
Required LLDs: 0.01 pCi/m³ for Gross Beta and 0.07 pCi/m³ for I-131
Units: 10⁻² pCi/m³

Q-04 Nitrin							
Date Collected	Volume (m ³)	Gross Beta	I-131 ^a	Date Collected	Volume (m ³)	Gross Beta	I-131 ^a
01-07-00	281	4.5 ± 0.4; 0.9	-0.1 ± 0.5; 0.5	07-07-00	285	2.3 ± 0.3; 0.5	-0.4 ± 0.4; 0.4
01-15-00	289	2.8 ± 0.4; 0.6	-	07-14-00	273	2.3 ± 0.4; 0.6	-
01-21-00	285	4.7 ± 0.4; 1.0	0.1 ± 0.2; 0.2	07-21-00	292	1.9 ± 0.3; 0.5	0.3 ± 0.4; 0.4
01-28-00	284	3.6 ± 0.5; 0.8	-	07-28-00	281	2.3 ± 0.3; 0.5	-
02-04-00	285	3.0 ± 0.4; 0.7	-0.3 ± 0.5; 0.5	08-04-00	286	2.7 ± 0.3; 0.6	-0.5 ± 0.4; 0.4
02-11-00	281	4.3 ± 0.4; 0.9	-	08-11-00	282	2.3 ± 0.3; 0.5	-
02-18-00	289	2.6 ± 0.4; 0.6	0.1 ± 0.5; 0.5	08-18-00	302	2.5 ± 0.3; 0.6	-0.4 ± 0.4; 0.4
02-25-00	281	3.6 ± 0.4; 0.8	-	08-25-00	285	3.1 ± 0.4; 0.7	-
03-03-00	286	2.1 ± 0.3; 0.5	-0.8 ± 0.5; 0.5	09-01-00	276	4.5 ± 0.4; 0.9	0.4 ± 0.4; 0.4
03-10-00	284	2.6 ± 0.4; 0.6	-	09-08-00	290	2.7 ± 0.4; 0.6	-
03-17-00	287	2.6 ± 0.4; 0.6	0.3 ± 0.4; 0.4	09-15-00	283	1.6 ± 0.3; 0.4	-0.7 ± 0.5; 0.5
03-24-00	285	2.0 ± 0.3; 0.5	-	09-22-00	289	3.1 ± 0.4; 0.7	-
03-31-00	284	1.9 ± 0.4; 0.5	-0.5 ± 0.5; 0.5	09-29-00	277	2.3 ± 0.4; 0.6	-0.1 ± 0.4; 0.4
1st Qtr. Mean±s.d.		3.1±1.0	-0.2±0.4	3rd Qtr. Mean±s.d.		2.6±0.7	-0.2±0.4
04-07-00	283	2.0 ± 0.3; 0.5	-	10-06-00	327	3.0 ± 0.3; 0.6	-
04-14-00	285	1.8 ± 0.4; 0.5	-0.3 ± 0.5; 0.5	10-14-00	294	2.6 ± 0.3; 0.6	-0.2 ± 0.4; 0.4
04-21-00	277	1.7 ± 0.3; 0.5	-	10-21-00	289	4.8 ± 0.4; 1.0	-
04-28-00	288	2.5 ± 0.3; 0.6	-0.4 ± 0.5; 0.5	10-27-00	227	4.5 ± 0.5; 0.9	0.4 ± 0.4; 0.4
05-05-00	284	2.5 ± 0.4; 0.6	-	11-03-00	291	2.2 ± 0.4; 0.6	-
05-12-00	291	2.3 ± 0.3; 0.5	0.0 ± 0.4; 0.4	11-10-00	285	2.3 ± 0.3; 0.5	0.4 ± 0.5; 0.5
05-19-00	287	2.6 ± 0.4; 0.6	-	11-17-00	285	3.5 ± 0.4; 0.8	-
05-26-00	285	2.1 ± 0.3; 0.5	-1.3 ± 0.5; 0.5	11-24-00	284	2.9 ± 0.4; 0.6	0.1 ± 0.3; 0.3
06-02-00	283	2.0 ± 0.3; 0.5	-	12-02-00	326	4.8 ± 0.4; 0.9	-
06-09-00	293	2.0 ± 0.4; 0.5	-0.4 ± 0.4; 0.4	12-09-00	285	2.9 ± 0.4; 0.6	0.7 ± 0.7; 0.7
06-16-00	282	1.4 ± 0.3; 0.4	-	12-15-00	248	3.1 ± 0.4; 0.7	-
06-23-00	284	1.5 ± 0.3; 0.4	-0.4 ± 0.5; 0.5	12-22-00	284	3.4 ± 0.4; 0.7	-0.3 ± 0.4; 0.4
06-30-00	284	1.4 ± 0.3; 0.4	-	12-29-00	286	4.5 ± 0.4; 0.9	-
2nd Qtr. Mean±s.d.		2.0±0.4	-0.5±0.4	4th Qtr. Mean±s.d.		3.4±0.9	0.2±0.4

^a Volume based on a two week collection period.

QUAD CITIES

Table 1. Airborne Particulates and Iodine Cartridges

Collection: Airborne Particulates - Continuous; weekly exchange
Iodine Cartridges - Continuous; biweekly exchange

ODCM-

Required LLDs: 0.01 pCi/m³ for Gross Beta and 0.07 pCi/m³ for I-131

Units: 10⁻² pCi/m³

Q-07 (C) Clinton							
Date Collected	Volume (m ³)	Gross Beta	I-131 ^a	Date Collected	Volume (m ³)	Gross Beta	I-131 ^a
01-08-00	337	4.2 ± 0.4; 0.8	-1.0 ± 0.4; 0.4	07-07-00	286	2.1 ± 0.3; 0.5	-0.2 ± 0.3; 0.3
01-14-00	245	3.0 ± 0.5; 0.7	-	07-14-00	287	2.4 ± 0.4; 0.6	-
01-22-00	321	5.2 ± 0.4; 1.0	-0.1 ± 0.2; 0.2	07-21-00	287	1.8 ± 0.3; 0.4	-0.2 ± 0.4; 0.4
01-29-00	282	4.0 ± 0.5; 0.9	-	07-28-00	287	2.3 ± 0.3; 0.5	-
02-04-00	280	2.9 ± 0.4; 0.7	1.0 ± 0.5; 0.5	08-04-00	282	2.5 ± 0.3; 0.6	0.6 ± 0.4; 0.4
02-11-00	289	4.5 ± 0.4; 0.9	-	08-12-00	324	2.5 ± 0.3; 0.6	-
02-18-00	285	2.6 ± 0.4; 0.6	0.4 ± 0.4; 0.4	08-18-00	246	3.0 ± 0.4; 0.7	-0.4 ± 0.4; 0.4
02-25-00	289	3.5 ± 0.4; 0.8	-	08-26-00	332	3.0 ± 0.3; 0.6	-
03-03-00	281	2.1 ± 0.3; 0.5	0.2 ± 0.5; 0.5	09-01-00	248	4.4 ± 0.5; 0.9	-0.5 ± 0.4; 0.4
03-10-00	282	2.6 ± 0.4; 0.6	-	09-09-00	319	2.8 ± 0.3; 1.0	-
03-17-00	295	2.7 ± 0.4; 0.6	-0.2 ± 0.4; 0.4	09-16-00	284	1.7 ± 0.3; 0.4	-0.5 ± 0.4; 0.5
03-24-00	250	2.2 ± 0.4; 0.5	-	09-23-00	289	3.4 ± 0.4; 0.7	-
03-31-00	285	1.4 ± 0.3; 0.4	-0.1 ± 0.5; 0.5	09-30-00	283	2.0 ± 0.4; 0.5	0.3 ± 0.5; 0.5
1st Qtr. Mean±s.d.		3.1±1.1	0.0±0.6	3rd Qtr. Mean±s.d.		2.6±0.7	-0.1±0.4
04-07-00	283	2.0 ± 0.3; 0.5	-	10-06-00	286	3.4 ± 0.4; 0.7	-
04-14-00	289	2.1 ± 0.4; 0.5	-0.3 ± 0.5; 0.5	10-14-00	287	3.3 ± 0.4; 0.7	-0.6 ± 0.5; 0.5
04-21-00	317	2.1 ± 0.3; 0.5	-	10-21-00	289	5.2 ± 0.4; 1.0	-
04-28-00	280	2.4 ± 0.3; 0.6	-0.1 ± 0.5; 0.5	10-27-00	243	5.4 ± 0.5; 1.1	0.0 ± 0.5; 0.5
05-05-00	254	2.2 ± 0.4; 0.6	-	11-03-00	287	3.1 ± 0.4; 0.7	-
05-12-00	285	2.0 ± 0.3; 0.5	0.2 ± 0.5; 0.5	11-10-00	291	2.3 ± 0.3; 0.5	0.8 ± 0.4; 0.4
05-19-00	285	1.8 ± 0.4; 0.5	-	11-17-00	285	3.6 ± 0.4; 0.8	-
05-26-00	285	2.2 ± 0.3; 0.5	0.1 ± 0.4; 0.4	11-24-00	277	2.6 ± 0.4; 0.6	-0.3 ± 0.4; 0.4
06-02-00	282	1.9 ± 0.3; 0.5	-	12-02-00	325	5.1 ± 0.4; 1.0	-
06-09-00	287	1.7 ± 0.3; 0.5	0.2 ± 0.3; 0.3	12-09-00	286	2.5 ± 0.3; 0.6	0.4 ± 0.4; 0.5
06-16-00	279	1.4 ± 0.3; 0.4	-	12-15-00	251	4.1 ± 0.4; 0.9	-
06-23-00	288	1.6 ± 0.3; 0.4	0.6 ± 0.4; 0.4	12-22-00	282	4.5 ± 0.4; 0.9	-0.5 ± 0.4; 0.4
06-30-00	277	1.5 ± 0.3; 0.4	-	12-30-00	322	4.1 ± 0.4; 1.3	-
2nd Qtr. Mean±s.d.		1.9±0.3	0.1±0.3	4th Qtr. Mean±s.d.		3.8±1.1	-0.0±0.6

^a Volume based on a two week collection period.

QUAD CITIES

Table 2. Airborne Particulates

Collection: Quarterly composites of weekly collections
 ODCM-
 Required LLDs: 0.01 pCi/m³
 Other LLDs:

Units: 10⁻⁴ pCi/m³

Sample Description and Concentration

Q-01 Onsite No. 1

2000 Collection Period	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Lab Code	QAP-2647	QAP-5446	QAP-8388	QAP-10861
Volume	3,070	3,708	3,554	3,721
Mn-54	-0.2 ± 6.9; 6.9	-2.0 ± 4.8; 4.8	0.2 ± 4.8; 4.8	-4.2 ± 6.1; 6.2
Fe-59	1.8 ± 11.9; 11.9	-0.8 ± 11.3; 11.3	0.4 ± 14.8; 14.8	14.3 ± 14.1; 14.3
Co-58	0.6 ± 5.4; 5.4	-1.7 ± 4.9; 4.9	-7.1 ± 4.3; 4.5	-4.1 ± 6.4; 6.4
Co-60	-5.6 ± 8.1; 8.2	3.9 ± 7.2; 7.3	5.8 ± 4.8; 4.9	-7.0 ± 8.8; 8.9
Zn-65	4.9 ± 10.4; 10.5	0.9 ± 11.4; 11.4	12.2 ± 8.1; 8.4	2.0 ± 11.9; 11.9
Zr/Nb-95	-4.3 ± 6.6; 6.7	-3.4 ± 3.4; 3.5	-5.6 ± 8.2; 8.2	16.3 ± 6.9; 7.4
Cs-134	2.9 ± 7.2; 7.2	2.1 ± 4.2; 4.2	-4.6 ± 5.5; 5.6	8.5 ± 7.5; 7.7
Cs-137	4.6 ± 6.0; 6.0	-2.4 ± 5.7; 5.8	2.6 ± 3.9; 3.9	1.3 ± 7.0; 7.0
Ba/La-140	-16.6 ± 8.4; 8.9	-4.2 ± 9.4; 9.5	-3.6 ± 7.8; 7.8	-41.0 ± 8.2; 11.0

Q-02 Onsite No. 2

2000 Collection Period	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Lab Code	QAP-2648,9	QAP-5447	QAP-8389	QAP-10862
Volume	3,706	3,712	3,570	3,716
Mn-54	1.4 ± 2.4; 2.4	-1.6 ± 4.1; 4.1	1.3 ± 5.3; 5.3	3.4 ± 6.1; 6.2
Fe-59	-0.9 ± 5.0; 5.0	-23.6 ± 10.1; 10.9	5.7 ± 10.2; 10.3	1.5 ± 16.4; 16.4
Co-58	2.0 ± 3.1; 3.2	-0.3 ± 3.7; 3.7	-1.7 ± 3.8; 3.8	5.8 ± 5.1; 5.2
Co-60	-2.8 ± 3.0; 3.0	2.4 ± 4.6; 4.6	4.2 ± 5.4; 5.5	5.0 ± 6.2; 6.3
Zn-65	-0.2 ± 5.1; 5.1	-1.3 ± 11.0; 11.0	2.9 ± 10.9; 10.9	18.2 ± 10.7; 11.2
Zr/Nb-95	-3.4 ± 5.6; 5.7	-0.5 ± 4.0; 4.0	-2.9 ± 4.9; 4.9	-2.9 ± 6.3; 6.3
Cs-134	-2.6 ± 3.2; 3.2	-1.2 ± 4.6; 4.6	-0.2 ± 5.3; 5.3	-0.5 ± 6.4; 6.4
Cs-137	-0.2 ± 3.3; 3.3	-1.3 ± 4.0; 4.0	-0.5 ± 4.4; 4.4	-0.8 ± 7.1; 7.1
Ba/La-140	3.3 ± 4.1; 4.1	10.3 ± 7.9; 8.1	21.3 ± 5.0; 6.2	61.7 ± 5.9; 12.5

QUAD CITIES

Table 2. Airborne Particulates

Collection: Quarterly composites of weekly collections
 ODCM-
 Required LLDs: 0.01 pCi/m³
 Other LLDs:

Units: 10⁻⁴ pCi/m³

Sample Description and Concentration

Q-03 Onsite No. 3

2000 Collection Period	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Lab Code	QAP-2650	QAP-5448	QAP-8390	QAP-10863
Volume	3,711	3,703	3,704	3,716
Mn-54	-0.3 ± 5.4; 5.4	4.4 ± 4.9; 5.0	-5.1 ± 4.8; 4.8	-4.6 ± 8.1; 8.2
Fe-59	5.6 ± 11.7; 11.8	6.4 ± 7.0; 7.1	-0.4 ± 14.2; 14.2	-19.6 ± 20.4; 20.7
Co-58	-2.8 ± 4.3; 4.4	-1.3 ± 4.5; 4.5	2.1 ± 4.4; 4.4	-2.9 ± 5.9; 5.9
Co-60	-0.1 ± 6.7; 6.7	0.4 ± 5.8; 5.8	-1.7 ± 5.3; 5.4	-1.5 ± 7.5; 7.5
Zn-65	2.1 ± 12.1; 12.1	-12.1 ± 12.8; 12.9	1.7 ± 8.1; 8.1	-15.2 ± 14.9; 15.1
Zr/Nb-95	4.9 ± 4.2; 4.3	-11.6 ± 9.3; 9.6	0.5 ± 4.3; 4.3	0.2 ± 6.0; 6.0
Cs-134	1.3 ± 5.7; 5.7	5.4 ± 4.5; 4.6	5.1 ± 4.6; 4.7	2.0 ± 6.1; 6.1
Cs-137	0.4 ± 4.4; 4.4	-1.9 ± 5.9; 5.9	3.9 ± 5.0; 5.0	-2.2 ± 7.4; 7.4
Ba/La-140	8.7 ± 7.1; 7.3	-53.7 ± 7.6; 12.2	26.0 ± 5.0; 6.8	-14.4 ± 6.1; 6.6

Q-04 Nitrin

2000 Collection Period	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Lab Code	QAP-2651	QAP-5449	QAP-8391	QAP-10864
Volume	3,707	3,713	3,709	3,718
Mn-54	3.0 ± 4.3; 4.3	-2.6 ± 4.9; 4.9	2.9 ± 5.8; 5.8	-0.8 ± 6.1; 6.1
Fe-59	-2.7 ± 7.6; 7.6	5.2 ± 9.5; 9.5	1.2 ± 11.2; 11.2	-20.4 ± 16.9; 17.2
Co-58	-0.9 ± 2.7; 2.7	1.0 ± 3.9; 3.9	-5.9 ± 4.6; 4.7	2.7 ± 4.6; 4.6
Co-60	-2.2 ± 4.1; 4.1	1.7 ± 3.8; 3.8	2.5 ± 5.6; 5.6	3.2 ± 7.3; 7.3
Zn-65	-11.5 ± 9.4; 9.6	-3.1 ± 10.3; 10.3	13.3 ± 9.4; 9.7	-1.0 ± 13.7; 13.7
Zr/Nb-95	0.3 ± 3.7; 3.7	2.7 ± 4.7; 4.7	-0.5 ± 4.7; 4.7	1.9 ± 5.6; 5.6
Cs-134	-2.8 ± 4.1; 4.2	-3.4 ± 5.3; 5.4	-5.2 ± 6.3; 6.4	-1.3 ± 6.2; 6.2
Cs-137	1.6 ± 4.0; 4.0	0.7 ± 4.1; 4.1	-1.5 ± 6.3; 6.3	-1.4 ± 7.0; 7.0
Ba/La-140	-16.6 ± 5.2; 6.0	-14.7 ± 6.9; 7.4	-7.2 ± 5.0; 5.2	-68.2 ± 9.8; 15.6

QUAD CITIES

Table 2. Airborne Particulates

Collection: Quarterly composites of weekly collections
 ODCM-
 Required LLDs: 0.01 pCi/m³
 Other LLDs:

Units: 10⁻⁴ pCi/m³

Sample Description and Concentration

Q-07 (C) Clinton

2000 Collection Period	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Lab Code	QAP-2652	QAP-5450	QAP-8392	QAP-10865
Volume	3,727	3,699	3,761	3,718
Mn-54	-0.2 ± 4.7; 4.7	-1.2 ± 4.4; 4.5	5.0 ± 4.3; 4.4	-2.3 ± 7.2; 7.2
Fe-59	7.1 ± 9.2; 9.2	11.0 ± 9.1; 9.3	-20.9 ± 13.1; 13.6	22.3 ± 10.6; 11.3
Co-58	0.4 ± 4.5; 4.5	1.2 ± 4.5; 4.5	-0.2 ± 4.4; 4.4	5.7 ± 5.1; 5.2
Co-60	1.1 ± 5.2; 5.2	-0.1 ± 6.4; 6.4	2.0 ± 5.4; 5.4	0.8 ± 10.4; 10.4
Zn-65	-10.4 ± 12.1; 12.2	12.8 ± 12.1; 12.3	4.9 ± 8.7; 8.8	2.0 ± 11.4; 11.4
Zr/Nb-95	-4.9 ± 4.2; 4.3	-1.6 ± 3.9; 3.9	-3.8 ± 5.0; 5.1	-10.2 ± 6.2; 6.4
Cs-134	3.6 ± 5.4; 5.4	-5.7 ± 5.0; 5.1	0.8 ± 4.9; 4.9	0.4 ± 5.7; 5.7
Cs-137	3.6 ± 4.2; 4.2	3.5 ± 4.8; 4.9	-8.0 ± 5.4; 5.6	0.7 ± 6.7; 6.7
Ba/La-140	-6.2 ± 6.6; 6.7	1.0 ± 3.8; 3.8	-8.9 ± 7.2; 7.4	11.8 ± 2.7; 3.4

QUAD CITIES

Table 3. Milk

Collection:	Biweekly (May - October) Monthly (November - April)
ODCM- Required LLDs:	I-131 = 0.5 pCi/L (May - October), I-131 = 5 pCi/L (November - April), Cs-134 = 15, Cs-137 = 18, Ba/La-140 = 15 pCi/L
Other LLDs:	Mn-54 = 10; Fe-59 = 15; Co-58, Co-60 = 10; Zn-65 = 15; Zr/Nb-95 = 10 pCi/L
Units:	pCi/L

Sample Description and Concentration

Q-26 Bill Stanley Dairy

Date Collected	12-31-99	02-04-00	03-03-00	03-31-00
Lab Code	QMI-1	QMI-662	QMI-1194	QMI-1934
I-131	0.13 ± 0.20; 0.20	0.01 ± 0.16; 0.16	0.03 ± 0.22; 0.22	-0.08 ± 0.21; 0.21
Mn-54	1.9 ± 3.0; 3.0	0.4 ± 2.1; 2.1	2.6 ± 2.8; 2.8	2.6 ± 2.8; 2.8
Fe-59	2.6 ± 6.6; 6.6	4.9 ± 4.2; 4.3	2.3 ± 6.1; 6.1	4.6 ± 6.0; 6.0
Co-58	0.1 ± 3.2; 3.2	0.1 ± 2.1; 2.1	-0.9 ± 2.6; 2.6	-2.6 ± 2.6; 2.6
Co-60	1.3 ± 2.7; 2.7	-0.2 ± 2.1; 2.1	-1.1 ± 3.6; 3.6	-2.7 ± 3.8; 3.8
Zn-65	-0.1 ± 7.1; 7.1	-0.5 ± 5.3; 5.3	-8.3 ± 8.3; 8.4	-4.1 ± 7.5; 7.5
Zr/Nb-95	-1.7 ± 3.1; 3.1	-3.3 ± 5.1; 5.1	1.7 ± 3.0; 3.0	-0.5 ± 2.7; 2.7
Cs-134	0.9 ± 4.1; 4.1	-0.6 ± 2.6; 2.6	2.9 ± 3.5; 3.5	2.8 ± 3.5; 3.5
Cs-137	4.6 ± 3.1; 3.2	1.3 ± 2.3; 2.4	2.4 ± 3.1; 3.1	0.4 ± 3.4; 3.4
Ba/La-140	1.2 ± 2.7; 2.7	-1.6 ± 1.9; 2.0	-2.3 ± 2.4; 2.4	1.9 ± 2.4; 2.4
Date Collected	05-05-00	05-19-00	06-02-00	06-16-00
Lab Code	QMI-3141	QMI-3510,1	QMI-3750	QMI-4120
I-131	-0.09 ± 0.21; 0.21	-0.05 ± 0.17; 0.17	0.23 ± 0.26; 0.27	-0.02 ± 0.21; 0.21
Mn-54	0.6 ± 3.3; 3.3	1.7 ± 2.0; 2.0	1.4 ± 3.3; 3.3	2.3 ± 2.2; 2.3
Fe-59	6.2 ± 8.8; 8.9	1.7 ± 4.1; 4.1	6.6 ± 9.3; 9.4	2.8 ± 4.3; 4.3
Co-58	0.2 ± 3.5; 3.5	0.4 ± 1.8; 1.8	-2.4 ± 4.4; 4.4	-0.7 ± 2.4; 2.4
Co-60	2.8 ± 3.9; 3.9	-0.2 ± 2.0; 2.0	-5.8 ± 4.4; 4.4	-2.1 ± 2.6; 2.7
Zn-65	-5.9 ± 7.4; 7.5	-2.5 ± 5.3; 5.3	-5.8 ± 9.0; 9.1	1.4 ± 5.3; 5.3
Zr/Nb-95	-3.3 ± 3.8; 3.8	0.7 ± 1.8; 1.8	-1.2 ± 3.5; 3.5	0.4 ± 2.5; 2.5
Cs-134	3.6 ± 4.0; 4.0	0.9 ± 2.0; 2.0	-0.1 ± 4.5; 4.5	-1.2 ± 2.8; 2.8
Cs-137	0.6 ± 3.1; 3.1	0.8 ± 2.0; 2.0	-2.4 ± 3.6; 3.7	-1.8 ± 2.2; 2.2
Ba/La-140	-2.6 ± 3.0; 3.1	2.9 ± 1.7; 1.7	3.9 ± 4.2; 4.3	1.6 ± 2.3; 2.3

QUAD CITIES

Table 3. Milk

Collection:	Biweekly (May - October) Monthly (November - April)
ODCM- Required LLDs:	I-131 = 0.5 pCi/L (May - October), I-131 = 5 pCi/L (November - April), Cs-134 = 15, Cs-137 = 18, Ba/La-140 = 15 pCi/L
Other LLDs:	Mn-54 = 10; Fe-59 = 15; Co-58, Co-60 = 10; Zn-65 = 15; Zr/Nb-95 = 10 pCi/L
Units:	pCi/L

Sample Description and Concentration

Q-26 Bill Stanley Dairy

Date Collected	07-01-00	07-14-00	07-28-00	08-11-00
Lab Code	QMI-4508	QMI-5148	QMI-5514	QMI-5923
I-131	0.13 ± 0.19; 0.19	-0.03 ± 0.21; 0.21	-0.00 ± 0.27; 0.27	0.08 ± 0.20; 0.20
Mn-54	2.7 ± 3.9; 4.0	0.8 ± 2.0; 2.0	1.0 ± 2.2; 2.2	3.5 ± 4.6; 4.6
Fe-59	-3.6 ± 7.4; 7.4	-0.8 ± 3.9; 3.9	1.7 ± 5.1; 5.1	3.5 ± 9.1; 9.1
Co-58	-1.1 ± 3.3; 3.3	-0.6 ± 1.8; 1.8	-1.6 ± 2.1; 2.1	1.8 ± 3.9; 4.0
Co-60	4.5 ± 4.8; 4.8	0.4 ± 1.9; 1.9	-0.6 ± 2.8; 2.8	4.0 ± 5.1; 5.1
Zn-65	-0.5 ± 9.1; 9.1	-2.2 ± 4.3; 4.3	-5.4 ± 6.1; 6.1	-0.2 ± 7.3; 7.3
Zr/Nb-95	1.1 ± 3.5; 3.5	0.7 ± 1.9; 1.9	-1.8 ± 2.4; 2.4	-0.1 ± 3.6; 3.6
Cs-134	2.2 ± 3.9; 3.9	-1.3 ± 2.2; 2.2	-0.9 ± 2.7; 2.7	-2.9 ± 4.8; 4.8
Cs-137	-0.7 ± 3.9; 3.9	2.1 ± 1.9; 1.9	1.0 ± 2.7; 2.7	-1.4 ± 4.2; 4.2
Ba/La-140	1.8 ± 4.7; 4.7	0.1 ± 1.8; 1.8	-1.5 ± 2.0; 2.0	-0.9 ± 2.9; 2.9
Date Collected	08-25-00	09-08-00	09-22-00	10-06-00
Lab Code	QMI-6234	QMI-6569	QMI-7013	QMI-7489
I-131	-0.10 ± 0.14; 0.14	-0.07 ± 0.21; 0.21	-0.02 ± 0.24; 0.24	0.13 ± 0.20; 0.20
Mn-54	0.7 ± 1.9; 1.9	1.9 ± 2.5; 2.5	-3.0 ± 2.5; 2.5	1.0 ± 2.2; 2.2
Fe-59	-2.9 ± 3.6; 3.7	-0.8 ± 5.8; 5.8	0.7 ± 4.7; 4.7	2.4 ± 6.0; 6.0
Co-58	-0.4 ± 1.7; 1.7	1.5 ± 2.6; 2.6	0.1 ± 2.0; 2.0	1.8 ± 2.6; 2.6
Co-60	0.8 ± 2.3; 2.3	-1.1 ± 2.8; 2.8	-0.8 ± 3.1; 3.1	-0.5 ± 2.8; 2.8
Zn-65	-0.3 ± 3.9; 3.9	-4.3 ± 6.5; 6.5	-1.2 ± 6.2; 6.2	0.6 ± 8.1; 8.1
Zr/Nb-95	-0.6 ± 1.9; 1.9	-0.4 ± 2.6; 2.6	-1.9 ± 2.4; 2.4	-1.6 ± 2.9; 2.9
Cs-134	0.2 ± 2.0; 2.0	0.7 ± 2.7; 2.7	-0.4 ± 2.7; 2.7	2.0 ± 3.0; 3.0
Cs-137	-0.1 ± 1.7; 1.7	2.0 ± 2.4; 2.5	0.1 ± 2.2; 2.2	1.2 ± 3.3; 3.3
Ba/La-140	0.5 ± 1.4; 1.4	-4.0 ± 2.9; 2.9	-1.6 ± 2.7; 2.7	0.5 ± 2.1; 2.1

QUAD CITIES

Table 3. Milk

Collection:	Biweekly (May - October) Monthly (November - April)
ODCM- Required LLDs:	I-131 = 0.5 pCi/L (May - October), I-131 = 5 pCi/L (November - April), Cs-134 = 15, Cs-137 = 18, Ba/La-140 = 15 pCi/L
Other LLDs:	Mn-54 = 10; Fe-59 = 15; Co-58, Co-60 = 10; Zn-65 = 15; Zr/Nb-95 = 10 pCi/L
Units:	pCi/L

Sample Description and Concentration

Q-26 Bill Stanley Dairy

Date Collected	10-21-00	11-03-00	12-02-00
Lab Code	QMI-8185	QMI-8645	QMI-9466
I-131	0.11 ± 0.15; 0.15	-0.02 ± 0.17; 0.17	-0.08 ± 0.20; 0.20
Mn-54	3.1 ± 5.2; 5.2	2.3 ± 1.7; 1.7	-1.6 ± 2.7; 2.7
Fe-59	0.8 ± 10.9; 10.9	1.6 ± 3.6; 3.6	2.5 ± 6.4; 6.4
Co-58	-4.2 ± 4.6; 4.7	-1.6 ± 1.6; 1.6	-0.1 ± 2.7; 2.7
Co-60	4.1 ± 5.4; 5.4	1.5 ± 1.7; 1.7	1.7 ± 2.3; 2.3
Zn-65	-0.9 ± 12.9; 12.9	0.5 ± 3.7; 3.7	-7.4 ± 8.2; 8.3
Zr/Nb-95	-0.3 ± 4.7; 4.7	-1.0 ± 1.7; 1.7	-1.3 ± 2.9; 2.9
Cs-134	0.4 ± 5.7; 5.7	0.4 ± 2.0; 2.0	2.4 ± 3.7; 3.7
Cs-137	0.3 ± 4.7; 4.7	0.5 ± 1.7; 1.7	-0.2 ± 3.2; 3.2
Ba/La-140	2.0 ± 5.4; 5.4	-2.5 ± 2.0; 2.0	1.5 ± 3.2; 3.2

QUAD CITIES

Table 4. Fish, Edible Portions

Collection: Semiannually

ODCM-

Required LLDs: Mn-54 = 0.13, Fe-59 = 0.26, Co-58 = 0.13, Co-60 = 0.13, Zn-65 = 0.26, Cs-134 = 0.1, Cs-137 = 0.1 pCi/g wet weight

Other LLDs: Zr/Nb-95 = 0.20, Ba/La-140 = 0.30 pCi/g wet weight

Units: 10^{-2} pCi/g wet weight

Sample Description and Concentration

Q-24 Pool #14 of Mississippi River

Date Collected	05-02-00	05-02-00	05-02-00	05-02-00
Lab Code	QF-2826	QF-2827	QF-2828	QF-2829
Type	Freshwater Drum	Largemouth Bass	Carp	Highfin Carpsucker
Mn-54	-0.2 ± 0.4; 0.5	0.1 ± 0.9; 0.9	-0.0 ± 0.7; 0.7	-0.4 ± 0.8; 0.8
Fe-59	-0.1 ± 1.0; 1.0	-1.3 ± 1.9; 1.9	2.0 ± 1.9; 2.0	2.4 ± 1.8; 1.8
Co-58	0.7 ± 0.5; 0.5	0.2 ± 0.9; 0.9	1.1 ± 0.7; 0.7	-0.8 ± 0.6; 0.6
Co-60	0.1 ± 0.6; 0.6	-0.5 ± 0.9; 0.9	1.0 ± 1.0; 1.0	-1.2 ± 1.0; 1.0
Zn-65	0.1 ± 1.3; 1.3	-2.3 ± 2.0; 2.0	-0.6 ± 2.2; 2.2	-0.1 ± 1.7; 1.7
Zr/Nb-95	0.1 ± 0.5; 0.5	0.4 ± 1.0; 1.0	-3.6 ± 1.7; 1.8	0.8 ± 0.5; 0.6
Cs-134	-0.1 ± 0.4; 0.4	0.3 ± 0.9; 0.9	-0.0 ± 0.8; 0.8	0.2 ± 0.7; 0.7
Cs-137	0.3 ± 0.5; 0.5	0.1 ± 0.7; 0.7	0.5 ± 0.8; 0.8	0.5 ± 0.8; 0.8
Ba/La-140	-0.9 ± 0.3; 0.4	-8.4 ± 0.7; 1.4	-7.8 ± 1.0; 1.5	-5.5 ± 1.1; 1.3
Date Collected	10-24-00	10-24-00	10-24-00	10-24-00
Lab Code	QF-8275	QF-8276	QF-8277	QF-8278
Type	Carp	Channel Catfish	Walleye	Silver Redhorse
Mn-54	0.1 ± 0.6; 0.6	0.9 ± 0.8; 0.8	0.4 ± 0.7; 0.7	-0.8 ± 0.6; 0.7
Fe-59	-1.0 ± 1.2; 1.2	0.8 ± 1.9; 1.9	0.1 ± 1.6; 1.6	-0.2 ± 1.7; 1.7
Co-58	0.1 ± 0.6; 0.6	0.2 ± 0.8; 0.8	-0.5 ± 0.7; 0.7	0.0 ± 0.7; 0.7
Co-60	-0.5 ± 0.7; 0.7	1.1 ± 1.1; 1.1	-0.4 ± 0.6; 0.6	0.1 ± 0.9; 0.9
Zn-65	0.1 ± 1.6; 1.6	-0.7 ± 2.2; 2.2	0.1 ± 2.0; 2.0	1.1 ± 2.2; 2.2
Zr/Nb-95	-0.1 ± 0.5; 0.5	-1.1 ± 0.9; 0.9	0.6 ± 0.6; 0.6	0.6 ± 0.7; 0.7
Cs-134	-0.2 ± 0.7; 0.7	0.8 ± 1.1; 1.1	-0.1 ± 0.9; 0.9	0.2 ± 0.8; 0.8
Cs-137	0.4 ± 0.5; 0.5	-0.3 ± 0.9; 0.9	0.2 ± 0.6; 0.6	-0.4 ± 0.7; 0.7
Ba/La-140	1.4 ± 0.6; 0.6	0.5 ± 1.0; 1.0	-0.1 ± 0.7; 0.7	-2.3 ± 1.0; 1.0

QUAD CITIES

Table 4. Fish, Edible Portions

Collection: Semiannually

ODCM-

Required LLDs: Mn-54 = 0.13, Fe-59 = 0.26, Co-58 = 0.13, Co-60 = 0.13, Zn-65 = 0.26, Cs-134 = 0.1, Cs-137 = 0.1 pCi/g wet weight

Other LLDs: Zr/Nb-95 = 0.20, Ba/La-140 = 0.30 pCi/g wet weight

Units: 10^{-2} pCi/g wet weight

Sample Description and Concentration

Q-29 (C) Mississippi River, Upstream

Date Collected	05-02-00	05-02-00	05-02-00	05-02-00
Lab Code	QF-2830	QF-2831,2	QF-2833	QF-2834
Type	Bigmouth Buffalo	River Carpsucker	Carp	Largemouth Bass
Mn-54	$-0.1 \pm 0.6; 0.6$	$-0.2 \pm 0.6; 0.6$	$-0.4 \pm 0.7; 0.7$	$0.7 \pm 0.9; 0.9$
Fe-59	$-4.1 \pm 1.9; 2.0$	$-2.0 \pm 1.3; 1.3$	$2.5 \pm 1.5; 1.5$	$0.3 \pm 1.5; 1.5$
Co-58	$-0.4 \pm 0.6; 0.6$	$0.5 \pm 0.5; 0.5$	$-0.1 \pm 0.8; 0.8$	$-0.8 \pm 0.8; 0.8$
Co-60	$-0.5 \pm 0.8; 0.8$	$0.5 \pm 0.6; 0.6$	$0.2 \pm 1.0; 1.0$	$0.4 \pm 0.9; 0.9$
Zn-65	$-0.0 \pm 2.4; 2.4$	$0.3 \pm 1.4; 1.4$	$-0.5 \pm 1.6; 1.6$	$-0.1 \pm 1.8; 1.8$
Zr/Nb-95	$0.3 \pm 0.6; 0.6$	$-1.0 \pm 1.1; 1.1$	$-0.4 \pm 1.3; 1.3$	$-2.0 \pm 1.9; 2.0$
Cs-134	$-0.1 \pm 0.7; 0.7$	$-0.1 \pm 0.5; 0.5$	$0.1 \pm 0.8; 0.8$	$0.0 \pm 1.1; 1.1$
Cs-137	$0.1 \pm 0.7; 0.7$	$0.1 \pm 0.6; 0.6$	$-0.1 \pm 0.7; 0.7$	$-0.2 \pm 0.9; 0.9$
Ba/La-140	$3.9 \pm 0.4; 0.7$	$-6.5 \pm 0.7; 1.1$	$2.1 \pm 0.7; 0.7$	$-8.7 \pm 1.1; 1.6$
Date Collected	05-02-00	10-24-00	10-24-00	10-24-00
Lab Code	QF-2835	QF-8279	QF-8280	QF-8281
Type	Freshwater Drum	Walleye	Bigmouth Buffalo	Carp
Mn-54	$0.2 \pm 0.7; 0.7$	$-0.4 \pm 0.5; 0.5$	$-0.2 \pm 0.6; 0.6$	$0.0 \pm 0.4; 0.4$
Fe-59	$1.9 \pm 1.3; 1.3$	$-1.1 \pm 1.5; 1.5$	$-0.3 \pm 1.5; 1.5$	$-0.0 \pm 1.0; 1.0$
Co-58	$0.9 \pm 0.7; 0.7$	$0.5 \pm 0.6; 0.6$	$-0.2 \pm 0.7; 0.7$	$0.2 \pm 0.4; 0.4$
Co-60	$0.2 \pm 0.6; 0.6$	$0.1 \pm 0.7; 0.7$	$-0.1 \pm 0.9; 0.9$	$0.1 \pm 0.5; 0.5$
Zn-65	$-2.2 \pm 1.4; 1.4$	$-0.9 \pm 1.8; 1.8$	$-0.6 \pm 1.7; 1.7$	$-1.7 \pm 1.3; 1.3$
Zr/Nb-95	$-0.4 \pm 0.8; 0.8$	$-0.0 \pm 0.7; 0.7$	$0.2 \pm 0.7; 0.7$	$-0.3 \pm 0.4; 0.5$
Cs-134	$-0.2 \pm 0.8; 0.8$	$0.5 \pm 0.7; 0.7$	$0.1 \pm 0.8; 0.8$	$-0.2 \pm 0.5; 0.5$
Cs-137	$-0.4 \pm 0.6; 0.6$	$0.4 \pm 0.6; 0.6$	$0.3 \pm 0.7; 0.7$	$-0.0 \pm 0.4; 0.4$
Ba/La-140	$4.4 \pm 0.6; 0.8$	$-1.1 \pm 0.8; 0.8$	$-0.3 \pm 0.5; 0.5$	$-0.2 \pm 0.3; 0.3$

QUAD CITIES

Table 4. Fish, Edible Portions

Collection: Semiannually

ODCM-

Required LLDs: Mn-54 = 0.13, Fe-59 = 0.26, Co-58 = 0.13, Co-60 = 0.13, Zn-65 = 0.26, Cs-134 = 0.1, Cs-137 = 0.1 pCi/g wet weight

Other LLDs: Zr/Nb-95 = 0.20, Ba/La-140 = 0.30 pCi/g wet weight

Units: 10^{-2} pCi/g wet weight

Sample Description and Concentration

Q-29 (C) Mississippi River, Upstream

Date Collected	10-24-00	10-24-00
Lab Code	QF-8282	QF-8283
Type	White Bass	River Carpsucker
Mn-54	-0.2 ± 0.4 ; 0.4	-0.5 ± 0.8 ; 0.8
Fe-59	-0.8 ± 0.9 ; 0.9	-2.2 ± 1.8 ; 1.9
Co-58	0.4 ± 0.4 ; 0.4	0.2 ± 0.8 ; 0.8
Co-60	-0.2 ± 0.5 ; 0.5	0.2 ± 0.9 ; 0.9
Zn-65	-0.7 ± 1.1 ; 1.1	-0.6 ± 1.9 ; 1.9
Zr/Nb-95	-0.0 ± 0.4 ; 0.4	-0.2 ± 0.6 ; 0.6
Cs-134	0.3 ± 0.5 ; 0.5	-0.4 ± 0.9 ; 0.9
Cs-137	0.2 ± 0.4 ; 0.4	-0.0 ± 0.8 ; 0.8
Ba/La-140	0.3 ± 0.4 ; 0.4	-0.0 ± 1.0 ; 1.0

QUAD CITIES

Table 5. Bottom Sediments

Collection: Semiannually

ODCM-

Required LLDs: Cs-134 = 0.15, Cs-137 = 0.18 pCi/g dry weight

Other LLDs: Mn-54 = 0.10; Fe-59 = 0.60; Co-58, Co-60 = 0.10; Zn-65 = 0.60; Zr/Nb-95 = 0.20;
Ba/La-140 = 0.60 pCi/g dry weight

Units: 10^{-2} pCi/g dry weight

Sample Description and Concentration

Q-39 Albany, Upstream on Mississippi River

Date Collected	05-12-00	10-21-00
Lab Code	QBS-3369	QBS-8184
Mn-54	0.8 ± 1.1 ; 1.1	1.0 ± 1.1 ; 1.1
Fe-59	0.4 ± 2.3 ; 2.3	2.0 ± 2.4 ; 2.4
Co-58	0.6 ± 0.9 ; 0.9	0.7 ± 1.0 ; 1.0
Co-60	0.3 ± 0.9 ; 0.9	-0.1 ± 1.4 ; 1.4
Zn-65	1.1 ± 2.7 ; 2.7	-1.0 ± 3.0 ; 3.0
Zr/Nb-95	-3.8 ± 2.0 ; 2.0	-2.4 ± 1.2 ; 1.3
Cs-134	2.3 ± 1.3 ; 1.4	0.3 ± 1.5 ; 1.5
Cs-137	1.8 ± 1.2 ; 1.2	4.5 ± 2.1 ; 2.2
Ba/La-140	0.7 ± 0.9 ; 0.9	-5.3 ± 1.3 ; 1.5

QUAD CITIES

Table 6. Vegetation

Collection: Annually

ODCM-

Required LLDs: I-131 = 0.06, Cs-134 = 0.06, Cs-137 = 0.08 pCi/g wet weight

Other LLDs: Mn-54 = 0.05; Fe-59 = 0.10; Co-58, Co-60, Zn-65 = 0.05; Zr/Nb-95 = 0.01;

Ba/La-140 = 0.02 pCi/g wet weight

Units: 10^{-2} pCi/g wet weight

Sample Description and Concentration

O-Control (C) Charles Leavens

Date Collected	08-01-00	08-01-00
Lab Code	QVE-5566 ^a	QVE-5567 ^a
Type	Rhubarb leaves	Onions
I-131	-0.03 ± 0.68; 0.68	
Mn-54	-0.8 ± 0.9; 0.9	0.4 ± 0.9; 0.9
Fe-59	-0.7 ± 1.5; 1.5	-1.7 ± 1.7; 1.7
Co-58	-0.3 ± 0.9; 0.9	0.0 ± 0.8; 0.8
Co-60	0.4 ± 0.9; 0.9	0.1 ± 1.0; 1.0
Zn-65	-1.2 ± 1.8; 1.8	-2.4 ± 2.1; 2.1
Zr/Nb-95	0.2 ± 0.8; 0.8	-0.5 ± 0.9; 0.9
Cs-134	0.4 ± 0.9; 0.9	1.1 ± 1.0; 1.0
Cs-137	-0.3 ± 0.8; 0.8	-0.1 ± 0.9; 0.9
Ba/La-140	0.1 ± 0.7; 0.7	-0.3 ± 0.8; 0.8

O-Quad 1 Robert Ziegler

Date Collected	08-01-00	08-01-00
Lab Code	QVE-5568 ^a	QVE-5569 ^a
Type	Rhubarb leaves	Onions
I-131	-0.20 ± 0.81; 0.81	
Mn-54	-0.4 ± 1.0; 1.0	0.5 ± 0.5; 0.5
Fe-59	1.2 ± 1.7; 1.8	-1.0 ± 1.6; 1.6
Co-58	-0.5 ± 0.8; 0.8	-0.1 ± 0.6; 0.6
Co-60	-0.3 ± 1.3; 1.3	0.2 ± 0.7; 0.7
Zn-65	-0.9 ± 2.2; 2.2	-0.3 ± 1.3; 1.3
Zr/Nb-95	0.6 ± 0.9; 0.9	-0.0 ± 0.5; 0.5
Cs-134	1.0 ± 1.1; 1.1	-0.0 ± 0.7; 0.7
Cs-137	0.9 ± 1.0; 1.0	0.1 ± 0.6; 0.6
Ba/La-140	-1.3 ± 1.3; 1.3	0.5 ± 0.6; 0.6

^a ODCM required. Onions = root vegetation; rhubarb leaves = broad leaf.

QUAD CITIES

Table 6. Vegetation

Collection: Annually

ODCM-

Required LLDs: I-131 = 0.06, Cs-134 = 0.06, Cs-137 = 0.08 pCi/g wet weight

Other LLDs: Mn-54 = 0.05; Fe-59 = 0.10; Co-58, Co-60, Zn-65 = 0.05; Zr/Nb-95 = 0.01;

Ba/La-140 = 0.02 pCi/g wet weight

Units: 10^{-2} pCi/g wet weight

Sample Description and Concentration

Q-Quad 2 Dale Nimmic

Date Collected	08-01-00	08-01-00
Lab Code	QVE-5570 ^a	QVE-5571 ^a
Type	Rhubarb leaves	Potatoes
I-131	-0.26 ± 1.30; 1.30	
Mn-54	-0.6 ± 1.4; 1.4	-0.4 ± 0.7; 0.7
Fe-59	-2.6 ± 3.1; 3.2	0.8 ± 1.8; 1.8
Co-58	1.1 ± 1.3; 1.3	-0.3 ± 0.6; 0.6
Co-60	0.8 ± 1.6; 1.6	0.6 ± 0.8; 0.8
Zn-65	0.1 ± 3.2; 3.2	-0.2 ± 2.0; 2.0
Zr/Nb-95	-1.0 ± 1.4; 1.4	-0.3 ± 0.6; 0.6
Cs-134	-0.2 ± 1.5; 1.5	-0.4 ± 0.8; 0.8
Cs-137	0.9 ± 1.4; 1.4	-0.3 ± 0.7; 0.7
Ba/La-140	0.6 ± 1.0; 1.0	1.1 ± 0.8; 0.9

Q-Quad 3 Amy Johnston

Date Collected	08-01-00	08-01-00
Lab Code	QVE-5572 ^a	QVE-5573 ^a
Type	Rhubarb leaves	Potatoes
I-131	-0.22 ± 0.45; 0.45	
Mn-54	-0.4 ± 0.8; 0.8	-0.6 ± 0.7; 0.7
Fe-59	0.6 ± 1.4; 1.4	-0.5 ± 1.5; 1.5
Co-58	0.0 ± 0.6; 0.6	0.1 ± 0.7; 0.7
Co-60	0.5 ± 0.7; 0.7	0.4 ± 0.9; 0.9
Zn-65	0.8 ± 1.6; 1.6	0.1 ± 1.6; 1.6
Zr/Nb-95	-0.9 ± 0.7; 0.7	-0.2 ± 0.8; 0.8
Cs-134	0.4 ± 0.7; 0.7	-0.3 ± 0.8; 0.9
Cs-137	-0.2 ± 0.6; 0.6	-0.0 ± 0.6; 0.6
Ba/La-140	-1.7 ± 1.0; 1.0	-0.2 ± 0.8; 0.8

^a ODCM required. Potatoes = root vegetation; rhubarb leaves = broad leaf.

QUAD CITIES

Table 6. Vegetation

Collection: Annually

ODCM-

Required LLDs: I-131 = 0.06, Cs-134 = 0.06, Cs-137 = 0.08 pCi/g wet weight

Other LLDs: Mn-54 = 0.05; Fe-59 = 0.10; Co-58, Co-60, Zn-65 = 0.05; Zr/Nb-95 = 0.01;

Ba/La-140 = 0.02 pCi/g wet weight

Units: 10^{-2} pCi/g wet weight

Sample Description and Concentration

Q-Quad 4 Mike Fauwcet ^a

Date Collected	08-01-00	08-01-00
Lab Code	QVE-5574	QVE-5575,6 ^b
Type	Rhubarb	Cabbage
I-131		0.06 ± 0.38; 0.38
Mn-54	0.4 ± 0.8; 0.8	0.3 ± 0.4; 0.4
Fe-59	-0.8 ± 1.6; 1.6	-0.1 ± 0.8; 0.8
Co-58	0.2 ± 0.8; 0.8	0.3 ± 0.4; 0.4
Co-60	-0.8 ± 1.1; 1.1	0.4 ± 0.4; 0.5
Zn-65	0.9 ± 1.9; 1.9	0.2 ± 0.9; 0.9
Zr/Nb-95	-0.0 ± 0.8; 0.8	0.0 ± 0.4; 0.4
Cs-134	0.1 ± 1.0; 1.0	-0.1 ± 0.5; 0.5
Cs-137	0.5 ± 0.7; 0.7	-0.2 ± 0.4; 0.4
Ba/La-140	-0.7 ± 0.9; 0.9	-0.0 ± 0.3; 0.3

^a After diligent search of quadrant, unable to locate root vegetation.

^b ODCM required. Cabbage = broad leaf vegetation.

QUAD CITIES

Table 7.	Surface Water
Collection:	Monthly composites of weekly collections
ODCM-	Gross Beta = 4, Mn-54 = 15, Fe-59 = 30, Co-58 = 15, Co-60 = 15, Zn-65 = 30,
Required LLDs:	Zr/Nb-95 = 15, Cs-134 = 15, Cs-137 = 18, Ba/La-140 = 15 pCi/L
Units:	pCi/L

Sample Description and Concentration

Q-33 Cordova

2000 Collection Period	January	February	March
Lab Code	QSW-213 ^a	QSW-1022 ^a	QSW-2080
Gross Beta	2.7 ± 1.5; 1.6	3.2 ± 1.6; 1.7	2.0 ± 1.4; 1.4
Mn-54	2.7 ± 1.9; 2.0	0.1 ± 1.8; 1.8	0.6 ± 1.4; 1.4
Fe-59	1.9 ± 4.5; 4.6	-3.8 ± 3.5; 3.5	-1.2 ± 3.0; 3.0
Co-58	-0.1 ± 1.7; 1.7	1.0 ± 1.7; 1.7	1.1 ± 1.7; 1.7
Co-60	4.7 ± 2.1; 2.2	-0.3 ± 2.0; 2.0	-0.8 ± 1.8; 1.8
Zn-65	4.6 ± 3.7; 3.8	-7.9 ± 4.0; 4.2	-0.3 ± 3.6; 3.6
Zr/Nb-95	-2.7 ± 1.9; 1.9	-0.6 ± 2.1; 2.1	0.9 ± 1.5; 1.5
Cs-134	2.0 ± 2.1; 2.1	-0.1 ± 2.2; 2.2	0.9 ± 1.9; 1.9
Cs-137	-2.4 ± 2.1; 2.2	-0.3 ± 2.0; 2.0	0.3 ± 1.4; 1.4
Ba/La-140	-11.0 ± 2.2; 2.7	-2.8 ± 2.2; 2.2	4.1 ± 1.5; 1.7
2000 Collection Period	April	May	June
Lab Code	QSW-3286	QSW-3991	QSW-4589
Gross Beta	2.1 ± 1.4; 1.5	3.5 ± 1.6; 1.7	5.1 ± 1.7; 1.9
Mn-54	-0.2 ± 1.1; 1.1	-0.7 ± 1.6; 1.6	-0.5 ± 1.4; 1.4
Fe-59	3.1 ± 2.0; 2.1	0.8 ± 3.1; 3.1	-2.4 ± 2.0; 2.0
Co-58	0.7 ± 1.1; 1.1	0.9 ± 1.3; 1.3	-0.2 ± 1.5; 1.5
Co-60	1.4 ± 1.2; 1.2	1.8 ± 1.7; 1.7	-0.8 ± 1.2; 1.2
Zn-65	-0.2 ± 2.2; 2.2	0.9 ± 3.7; 3.7	0.6 ± 2.9; 2.9
Zr/Nb-95	2.4 ± 1.1; 1.2	-3.7 ± 3.2; 3.2	-1.2 ± 1.4; 1.4
Cs-134	-0.2 ± 1.2; 1.2	0.2 ± 1.8; 1.8	1.4 ± 1.3; 1.4
Cs-137	0.4 ± 1.2; 1.2	1.1 ± 1.6; 1.7	-0.3 ± 1.4; 1.4
Ba/La-140	-2.4 ± 1.4; 1.5	-5.4 ± 1.9; 2.0	-0.6 ± 1.9; 1.9

QUAD CITIES

Table 7.	Surface Water
Collection:	Monthly composites of weekly collections
ODCM-	Gross Beta = 4, Mn-54 = 15, Fe-59 = 30, Co-58 = 15, Co-60 = 15, Zn-65 = 30,
Required LLDs:	Zr/Nb-95 = 15, Cs-134 = 15, Cs-137 = 18, Ba/La-140 = 15 pCi/L
Units:	pCi/L

Sample Description and Concentration				
Q-33 Cordova				
2000				
Collection Period	July	August	September	
Lab Code	QSW-5554	QSW-6291,2	QSW-7439	
Gross Beta	3.3 ± 1.5; 1.6	3.0 ± 1.0; 1.1	4.2 ± 1.5; 1.6	
Mn-54	-0.7 ± 2.8; 2.8	0.1 ± 2.7; 2.7	4.4 ± 3.2; 3.3	
Fe-59	-5.2 ± 5.6; 5.7	-1.1 ± 5.4; 5.4	-4.2 ± 6.5; 6.6	
Co-58	-1.3 ± 2.5; 2.5	0.8 ± 2.6; 2.6	4.0 ± 3.4; 3.4	
Co-60	2.5 ± 3.2; 3.2	1.4 ± 2.8; 2.8	-1.1 ± 3.8; 3.8	
Zn-65	-2.5 ± 5.4; 5.4	-5.0 ± 6.1; 6.1	-2.8 ± 7.6; 7.6	
Zr/Nb-95	0.9 ± 2.5; 2.5	-0.4 ± 2.3; 2.3	-3.3 ± 7.5; 7.5	
Cs-134	1.4 ± 2.8; 2.8	1.4 ± 2.8; 2.8	-2.1 ± 4.0; 4.0	
Cs-137	1.3 ± 2.9; 2.9	3.0 ± 2.7; 2.7	-0.6 ± 3.2; 3.2	
Ba/La-140	-29.1 ± 4.8; 6.4	-0.1 ± 2.7; 2.7	-6.4 ± 3.3; 3.4	
2000				
Collection Period	October	November	December	
Lab Code	QSW-8790	QSW-9986	QSW-9467 ^b	
Gross Beta	3.2 ± 0.9; 1.1	3.3 ± 1.0; 1.1	4.3 ± 1.6; 1.7	
Mn-54	-0.3 ± 1.5; 1.5	1.8 ± 1.7; 1.8	0.1 ± 1.1; 1.1	
Fe-59	2.6 ± 3.4; 3.4	1.1 ± 3.0; 3.0	-2.5 ± 2.3; 2.3	
Co-58	-2.3 ± 1.7; 1.7	0.4 ± 1.6; 1.6	1.3 ± 1.1; 1.1	
Co-60	-0.2 ± 1.7; 1.7	0.5 ± 2.2; 2.2	-0.2 ± 1.3; 1.3	
Zn-65	2.3 ± 3.4; 3.4	2.7 ± 4.0; 4.0	-3.9 ± 2.6; 2.7	
Zr/Nb-95	1.9 ± 1.5; 1.5	-0.3 ± 1.6; 1.6	-2.8 ± 1.2; 1.3	
Cs-134	-1.2 ± 1.8; 1.9	-0.1 ± 2.0; 2.0	0.4 ± 1.3; 1.3	
Cs-137	-0.5 ± 1.6; 1.6	-1.2 ± 1.7; 1.7	0.6 ± 1.3; 1.3	
Ba/La-140	1.0 ± 1.7; 1.7	-8.3 ± 2.3; 2.6	-24.9 ± 1.3; 3.8	

^a Results reflect one collection for month; river frozen.

^b Results reflect one collection for month; river frozen.

QUAD CITIES

Table 7.	Surface Water
Collection:	Monthly composites of weekly collections
ODCM-	Gross Beta = 4, Mn-54 = 15, Fe-59 = 30, Co-58 = 15, Co-60 = 15, Zn-65 = 30,
Required LLDs:	Zr/Nb-95 = 15, Cs-134 = 15, Cs-137 = 18, Ba/La-140 = 15 pCi/L
Units:	pCi/L

Sample Description and Concentration				
<u>Q-34 (C) Camanche</u>				
2000 Collection Period	January	February	March	
Lab Code	QSW-214 ^a	QSW-1023 ^a	QSW-2081	
Gross Beta	2.9 ± 1.4; 1.5	2.9 ± 1.6; 1.6	3.9 ± 1.5; 1.6	
Mn-54	0.9 ± 1.9; 1.9	0.6 ± 2.3; 2.3	-1.3 ± 3.3; 3.3	
Fe-59	3.2 ± 3.1; 3.1	-4.6 ± 4.7; 4.7	6.8 ± 6.1; 6.1	
Co-58	1.1 ± 1.7; 1.7	-1.7 ± 2.3; 2.3	-0.9 ± 2.7; 2.7	
Co-60	0.1 ± 1.9; 1.9	0.1 ± 2.4; 2.4	1.3 ± 3.8; 3.8	
Zn-65	-2.5 ± 3.8; 3.8	-43.6 ± 5.9; 8.6	3.2 ± 4.4; 4.4	
Zr/Nb-95	0.1 ± 2.0; 2.0	-3.0 ± 2.5; 2.6	1.1 ± 2.2; 2.2	
Cs-134	2.7 ± 2.1; 2.2	-0.5 ± 2.5; 2.5	-1.3 ± 3.0; 3.0	
Cs-137	-1.1 ± 2.0; 2.0	-0.9 ± 2.5; 2.5	-0.7 ± 3.5; 3.5	
Ba/La-140	-12.1 ± 2.2; 2.8	0.7 ± 2.4; 2.4	-2.7 ± 4.0; 4.0	
2000 Collection Period	April	May	June	
Lab Code	QSW-3287	QSW-3992	QSW-4590	
Gross Beta	2.9 ± 1.5; 1.6	3.8 ± 1.6; 1.7	4.4 ± 1.5; 1.6	
Mn-54	1.1 ± 1.1; 1.1	-0.5 ± 1.5; 1.5	1.4 ± 1.7; 1.7	
Fe-59	-1.7 ± 2.3; 2.3	1.8 ± 3.0; 3.0	-1.7 ± 4.5; 4.5	
Co-58	1.7 ± 1.2; 1.2	0.3 ± 1.7; 1.7	-0.8 ± 1.7; 1.7	
Co-60	0.8 ± 1.3; 1.3	1.3 ± 1.6; 1.6	1.2 ± 1.6; 1.6	
Zn-65	0.4 ± 2.3; 2.3	-0.4 ± 2.6; 2.6	-8.3 ± 4.7; 4.9	
Zr/Nb-95	0.8 ± 1.3; 1.3	-3.9 ± 2.2; 2.2	-1.3 ± 2.1; 2.1	
Cs-134	0.2 ± 1.5; 1.5	-0.2 ± 1.7; 1.7	2.9 ± 2.3; 2.4	
Cs-137	0.9 ± 1.1; 1.2	1.0 ± 1.6; 1.6	0.9 ± 1.7; 1.7	
Ba/La-140	-3.6 ± 1.5; 1.6	-2.2 ± 2.4; 2.4	1.6 ± 1.7; 1.7	

QUAD CITIES

Table 7. Surface Water

Collection: Monthly composites of weekly collections

ODCM- Gross Beta = 4, Mn-54 = 15, Fe-59 = 30, Co-58 = 15, Co-60 = 15, Zn-65 = 30,
Required LLDs: Zr/Nb-95 = 15, Cs-134 = 15, Cs-137 = 18, Ba/La-140 = 15 pCi/L

Units: pCi/L

Sample Description and Concentration				
<u>Q-34 (C) Camanche</u>				
2000 Collection Period	July	August	September	
Lab Code	QSW-5555	QSW-6293	QSW-7440	
Gross Beta	3.4 ± 1.5; 1.6	3.8 ± 1.4; 1.5	3.8 ± 1.5; 1.6	
Mn-54	-0.2 ± 1.6; 1.6	-0.4 ± 1.3; 1.3	-1.1 ± 1.7; 1.7	
Fe-59	-3.6 ± 2.9; 2.9	-0.8 ± 2.7; 2.7	-1.3 ± 3.5; 3.5	
Co-58	0.6 ± 1.6; 1.6	0.6 ± 1.4; 1.4	0.3 ± 1.4; 1.4	
Co-60	1.2 ± 1.6; 1.6	-0.7 ± 1.5; 1.5	0.6 ± 1.3; 1.4	
Zn-65	-2.5 ± 3.3; 3.3	-5.3 ± 3.6; 3.7	0.4 ± 3.2; 3.2	
Zr/Nb-95	-2.2 ± 1.6; 1.6	-1.5 ± 1.5; 1.5	-2.3 ± 1.6; 1.6	
Cs-134	-1.2 ± 1.8; 1.8	-0.2 ± 1.5; 1.5	1.3 ± 2.1; 2.1	
Cs-137	-0.1 ± 1.8; 1.8	1.2 ± 1.4; 1.4	-0.7 ± 1.8; 1.8	
Ba/La-140	0.3 ± 1.9; 1.9	1.3 ± 1.1; 1.1	-1.0 ± 1.7; 1.7	
2000 Collection Period	October	November	December	
Lab Code	QSW-8791	QSW-9987	QSW-9468 ^b	
Gross Beta	3.2 ± 0.9; 1.0	3.7 ± 1.2; 1.3	2.5 ± 1.4; 1.4	
Mn-54	-0.8 ± 1.1; 1.1	-0.5 ± 1.3; 1.3	-0.0 ± 1.0; 1.0	
Fe-59	-1.7 ± 1.8; 1.8	-2.5 ± 2.5; 2.6	0.2 ± 1.8; 1.8	
Co-58	-0.3 ± 1.0; 1.0	0.2 ± 1.3; 1.3	1.0 ± 1.0; 1.0	
Co-60	0.7 ± 1.0; 1.1	0.1 ± 1.6; 1.6	2.5 ± 1.1; 1.1	
Zn-65	-2.6 ± 2.2; 2.2	0.8 ± 2.4; 2.4	0.8 ± 1.9; 1.9	
Zr/Nb-95	0.4 ± 1.1; 1.1	-0.9 ± 1.2; 1.2	-2.3 ± 1.1; 1.1	
Cs-134	-0.2 ± 1.2; 1.2	0.2 ± 1.5; 1.5	0.9 ± 1.2; 1.2	
Cs-137	0.2 ± 0.9; 0.9	0.4 ± 1.2; 1.2	0.9 ± 0.9; 0.9	
Ba/La-140	-1.4 ± 1.2; 1.3	-1.7 ± 1.7; 1.7	-18.0 ± 1.2; 2.9	

^a Results reflect one collection for month; river frozen.

^b Results reflect one collection for month; river frozen.

QUAD CITIES

Table 7. Surface Water
 Collection: Quarterly composites of weekly collections
 ODCM-
 Required LLD: H-3 = 200 pCi/L
 Units: pCi/L

2000 Collection Period	<u>Sample Description and Concentration</u>	
	Lab Code	Tritium
<u>Q-33 Cordova</u>		
1st Quarter	QSW- 1939	164 ± 96; 99
2nd Quarter	QSW- 4587	96 ± 93; 93
3rd Quarter	QSW- 7436,7	56 ± 57; 57
4th Quarter	QSW- 10750	24 ± 83; 83
<u>Q-34 (C) Camanche</u>		
1st Quarter	QSW- 1940	83 ± 93; 93
2nd Quarter	QSW- 4588	136 ± 94; 96
3rd Quarter	QSW- 7438	66 ± 81; 82
4th Quarter	QSW- 10751	134 ± 83; 85

QUAD CITIES

Table 8. Well Water

Collection: Quarterly
 ODCM- H-3 = 200, Mn-54 = 15, Fe-59 = 30, Co-58 = 15, Co-60 = 15, Zn-65 = 30,
 Required LLDs: Zr/Nb-95 = 15, Cs-134 = 15, Cs-137 = 18, Ba/La-140 = 15 pCi/L
 Units: pCi/L

Sample Description and Concentration

Q-35 McMillian Well

Date Collected	12-31-99	03-31-00	07-07-00	10-14-00
Lab Code	QWW-4	QWW-1935	QWW-4818,9	QWW-7856
H-3	171 ± 96; 99	85 ± 83; 84	21 ± 55; 55	16 ± 90; 90
Mn-54	-1.0 ± 1.5; 1.5	-0.5 ± 1.3; 1.3	0.1 ± 0.6; 0.6	-0.5 ± 3.9; 3.9
Fe-59	-3.0 ± 3.0; 3.1	0.1 ± 2.7; 2.7	-0.9 ± 1.1; 1.1	-0.6 ± 6.4; 6.4
Co-58	0.8 ± 1.5; 1.5	-0.3 ± 1.2; 1.2	0.6 ± 0.6; 0.6	1.3 ± 4.3; 4.3
Co-60	-0.8 ± 1.5; 1.5	0.3 ± 1.2; 1.2	0.7 ± 0.5; 0.5	5.7 ± 3.9; 4.0
Zn-65	-0.7 ± 2.5; 2.5	-0.3 ± 2.7; 2.7	-0.6 ± 1.1; 1.2	10.1 ± 8.8; 8.9
Zr/Nb-95	0.7 ± 1.5; 1.5	0.4 ± 1.2; 1.2	-0.7 ± 0.6; 0.6	1.9 ± 4.4; 4.4
Cs-134	2.4 ± 1.7; 1.7	0.6 ± 1.4; 1.4	0.2 ± 0.7; 0.7	-0.7 ± 4.7; 4.7
Cs-137	0.4 ± 1.6; 1.6	-1.4 ± 1.2; 1.3	0.3 ± 0.5; 0.5	-1.0 ± 3.8; 3.8
Ba/La-140	2.1 ± 1.4; 1.5	-2.3 ± 1.6; 1.6	0.1 ± 0.6; 0.6	-6.7 ± 5.2; 5.3

Q-36 Cordova Well

Date Collected	12-31-99	03-31-00	07-07-00	10-14-00
Lab Code	QWW-5	QWW-1936	QWW-4820	QWW-7857
H-3	35 ± 90; 91	75 ± 96; 96	30 ± 78; 78	85 ± 93; 93
Mn-54	1.2 ± 2.5; 2.5	0.5 ± 1.3; 1.3	-0.1 ± 1.5; 1.5	1.2 ± 4.0; 4.0
Fe-59	-5.8 ± 5.6; 5.7	-1.1 ± 2.9; 2.9	0.3 ± 3.1; 3.1	2.4 ± 9.4; 9.4
Co-58	0.6 ± 2.5; 2.5	0.8 ± 1.3; 1.3	0.7 ± 1.5; 1.5	0.1 ± 3.8; 3.8
Co-60	1.0 ± 3.1; 3.1	-1.0 ± 1.3; 1.4	0.9 ± 1.7; 1.7	6.0 ± 4.8; 4.9
Zn-65	0.7 ± 4.4; 4.4	0.3 ± 2.5; 2.5	-1.0 ± 3.0; 3.0	-4.5 ± 10.4; 10.4
Zr/Nb-95	-1.9 ± 2.9; 2.9	0.0 ± 1.6; 1.6	-1.0 ± 1.6; 1.6	1.8 ± 4.5; 4.5
Cs-134	0.7 ± 3.3; 3.3	0.2 ± 1.4; 1.4	-0.6 ± 1.9; 1.9	0.5 ± 4.5; 4.5
Cs-137	2.4 ± 3.0; 3.0	-1.1 ± 1.2; 1.2	0.3 ± 1.4; 1.4	-1.5 ± 4.5; 4.5
Ba/La-140	-0.7 ± 3.0; 3.0	0.4 ± 1.5; 1.5	1.3 ± 1.7; 1.7	-0.2 ± 6.0; 6.0

QUAD CITIES

MILCH ANIMALS, NEAREST LIVESTOCK, AND
NEAREST RESIDENCES CENSUS

QUAD CITIES

MILCH ANIMALS CENSUS, 2000

Q-26 Bill Stanley Dairy
 3.5 miles, Sector F
 hay, grain and supplement

 6.3 miles, Sector H
 10% - Pasture
 90% - Chopped and Feed

 6.0 miles, Sector N
 UNCO-OPERATIVE
 No Data Available

Census conducted by G.T. Kreuder on August 2, 2000

QUAD CITIES

NEAREST LIVESTOCK CENSUS, 2000

Nearest livestock of the Quad Cities Station within a 6.2 mile radius.

<u>Sector</u>	<u>Direction</u>	<u>Distance</u>
A	N	3.0 miles
B	NNE	None
C	NE	None
D	ENE	3.0 miles
E	E	2.0 miles
F	ESE	3.0 miles
G	SE	None
H	SSE	4.0 miles
J	S	5.5 miles
K	SSW	None
L	SW	3.5 miles
M	WSW	4.0 miles
N	W	2.5 miles
P	WNW	3.6 miles
Q	NW	5.0 miles
R	NNW	2.3 miles

Census conducted by G.T. Kreuder on August 2, 2000

QUAD CITIES

NEAREST RESIDENCE CENSUS, 2000

Nearest resident of the Quad Cities Station within a 6.2 mile radius.

<u>Sector</u>	<u>Direction</u>	<u>Distance</u>
A	N	0.5 miles
B	NNE	0.7 miles
C	NE	1.8 miles
D	ENE	3.5 miles
E	E	2.3 miles
F	ESE	3.0 miles
G	SE	2.5 miles
H	SSE	1.0 miles
J	S	0.8 miles
K	SSW	3.0 miles
L	SW	3.0 miles
M	WSW	2.0 miles
N	W	2.3 miles
P	WNW	2.3 miles
Q	NW	2.3 miles
R	NNW	1.7 miles

Census conducted by G.T. Kreuder on August 2, 2000

QUAD CITIES

4.0 TLD DATA*

*TLD Data provided by Commonwealth Edison Company.

Date: 25-JAN-01

Environmental Site Report V4 for Quad Cities

Page: 1

Gamma Radiation Measured in mR by TLDs

Site	Description	Quarter 1 2000	Quarter 2 2000	Quarter 3 2000	Quarter 4 2000
I. INDICATOR LOCATIONS					
a. Air Samplers					
Q-01-1	ONSITE NO.1	15.7	14.7	14.6	15.3
Q-01-2	ONSITE NO.1	15.5	14.4	15.0	15.5
Q-02-1	ONSITE NO.2	15.7	15.3	14.8	16.8
Q-02-2	ONSITE NO.2	15.8	14.8	14.2	15.6
Q-03-1	ONSITE NO.3	15.3	14.8	14.7	15.9
Q-03-2	ONSITE NO.3	14.8	13.7	13.3	14.8
Q-04-1	NITRIN	14.2	14.3	13.4	15.0
Q-04-2	NITRIN	14.0	13.9	13.5	14.6
Q-13-1	PRINCETON	15.9	16.0	15.1	16.6
Q-13-2	PRINCETON	15.2	15.4	14.4	16.6
Q-16-1	LOW MOOR	14.3	14.5	13.9	16.3
Q-16-2	LOW MOOR	14.9	15.0	14.3	15.6
Q-37-1	MEREDOSIA ROAD	16.2	15.6	16.0	16.4
Q-37-2	MEREDOSIA ROAD	15.9	16.0	15.7	17.0
Q-38-1	FULLER ROAD	15.9	16.4	15.4	16.9
Q-38-2	FULLER ROAD	15.1	15.1	15.6	15.8

Air Sampler Mean \pm S.D.	15.3 \pm 0.7	15.0 \pm 0.8	14.6 \pm 0.8	15.9 \pm 0.8
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Annual Air Sampler Mean \pm S.D.	15.2 \pm 0.9
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b. Inner Ring (100 Series)

Q-101-1	15.3	15.1	14.1	15.9
Q-101-2	14.9	15.0	14.7	15.9
Q-102-1	16.4	17.0	15.4	17.1
Q-102-3	15.5	15.5	14.7	16.3
Q-103-1	14.5	14.2	13.4	15.3
Q-103-2	14.1	14.0	13.8	15.7
Q-104-1	14.9	14.7	13.1	15.3
Q-104-2	14.6	15.0	13.8	15.1
Q-105-1	14.4	14.6	13.5	14.6
Q-105-2	14.4	14.9	13.8	15.3
Q-106-2	14.6	14.2	13.8	15.4
Q-106-3	14.6	15.0	14.6	15.6
Q-107-2	14.2	14.1 *	14.7	15.2
Q-107-3	14.8	14.8	14.1	15.5
Q-108-1	14.3	15.1	14.0	14.9
Q-108-2	14.7	15.5	14.7	14.7
Q-109-1	15.4	15.7	14.2	15.6

Site	Description	Quarter 1 2000	Quarter 2 2000	Quarter 3 2000	Quarter 4 2000
b. Inner Ring (100 Series)					
Q-109-2		14.8	15.6	14.1	16.0
Q-111-1		15.7	16.4	15.8	17.8
Q-111-2		15.0	15.4	14.8	15.8
Q-112-1		15.4	15.3	14.6	16.1
Q-112-2		16.8	16.5	15.2	17.5
Q-113-1		15.7	15.1	13.7	15.7
Q-113-2		14.9	14.6	13.8	14.8
Q-114-1		14.9	14.0	13.6	15.1
Q-114-2		15.9	17.0	15.2	17.0
Q-115-1		15.3	14.6	14.3	15.9
Q-115-2		16.4	16.5	15.9	18.3
Q-116-1		15.5	16.7	15.5	17.4
Q-116-3		15.8	14.9	14.8	16.4
Inner Ring Mean \pm S.D.		15.1 \pm 0.7	15.2 \pm 0.9	14.4 \pm 0.7	15.9 \pm 0.9
Annual Inner Ring Mean \pm S.D.		15.2 \pm 1.0			

c. Outer Ring (200 Series)

Q-201-1	16.9	17.7	15.8	18.0
Q-201-2	17.1	17.1	16.0	17.8
Q-202-1	14.2	14.3	13.5	15.0
Q-202-2	14.9	15.1	14.1	15.4
Q-203-1	16.1	16.0	15.5	17.4
Q-203-2	18.2	18.3	17.1	18.5
Q-204-1	17.5	18.1	16.5	17.9
Q-204-2	17.1	18.9	17.2	18.8
Q-205-1	16.9	17.2	16.3	17.4
Q-205-4	16.8	18.4	16.8	18.7
Q-206-1	15.3	15.9	15.5	16.3
Q-206-2	15.0	15.8	14.8	16.7
Q-207-1	15.8	18.4	16.6	18.2
Q-207-4	14.7	15.9	15.2	16.7
Q-208-1	16.4	16.8	16.2 #	16.6
Q-208-2	17.2	17.6	16.3	17.7
Q-209-1	16.8	16.4	16.1	16.6
Q-209-4	16.7	17.0	15.9	16.9
Q-210-1	15.6	16.9	15.5	17.0
Q-210-4	16.8	16.0	16.1	17.6
Q-211-1	19.6	19.5	17.9	19.6
Q-211-2	19.3	19.2	17.9	20.5
Q-212-1	16.6	17.8	16.9	18.1
Q-212-2	14.8	15.4	14.6	15.5
Q-213-1	14.6	15.1	14.5	16.1
Q-213-2	14.5	14.4	13.8	14.7
Q-214-1	17.5	17.7	16.4	18.6
Q-214-2	17.6	17.7	16.1	19.0
Q-215-1	16.9	16.3	15.7	18.2
Q-215-2	18.7	18.4	17.6	20.3
Q-216-1	16.9	17.0	16.7	18.6

Site	Description	Quarter 1 2000	Quarter 2 2000	Quarter 3 2000	Quarter 4 2000
c. Outer Ring (200 Series)					
Q-216-2		17.5	17.8	17.3	20.1
	Outer Ring Mean \pm S.D.	16.6 \pm 1.4	17.0 \pm 1.4	16.0 \pm 1.1	17.6 \pm 1.5
	Annual Outer Ring Mean \pm S.D.				16.8 \pm 1.5
	INDICATOR LOCATION MEAN \pm S.D.	15.8 \pm 1.2	15.9 \pm 1.4	15.1 \pm 1.2	16.6 \pm 1.4
	Annual INDICATOR LOCATION MEAN \pm S.D.				15.8 \pm 1.4

II. CONTROL LOCATIONS

Q-07-1	CLINTON	15.6	15.0	14.3	17.0
Q-07-2	CLINTON	15.2	16.1	14.1	16.0
	CONTROL LOCATION Mean \pm S.D.	15.4 \pm 0.3	15.6 \pm 0.8	14.2 \pm 0.1	16.5 \pm 0.7
	Annual CONTROL LOCATION Mean \pm S.D.				15.4 \pm 1.0

III. SPECIAL INTEREST LOCATIONS

Q-301-1	PUBLIC OBSERVATION TOWER	32.8	24.6	23.5	26.2
Q-302-1	VISITORS CENTER	30.7	28.5	26.7	29.8
Q-302-2	FIRE TRAINING BUILDING	15.0	14.7	13.4	15.6
Q-302-3	SIMULATOR BUILDING	19.4	16.9	16.1	17.6
Q-305-3	WAREHOUSE ON UPPER ACCESS ROAD	19.6	18.7	16.6	18.2
Q-307-1	NORTH OF DAW	14.5	13.9	12.8	15.2
Q-307-2	EAST OF DAW	19.9	20.4	19.2	21.5
Q-307-3	SOUTH OF DAW	17.2	17.7	16.4	17.6
Q-307-4	WEST OF DAW	18.6	18.3	17.4	18.6
Q-307-5	TELEPHONE POLE/SOUTHEAST OF DAW	20.1	19.3	19.1	19.1
Q-310-1	RESTRICTED AREA FENCE/WEST OF DAW	15.1	15.1	13.9	15.2
	SPECIAL INTEREST LOCATION Mean \pm S.D.	20.3 \pm 6.1	18.9 \pm 4.4	17.7 \pm 4.3	19.5 \pm 4.7
	Annual SPECIAL INTEREST LOCATION Mean \pm S.D.				19.1 \pm 4.8

COMMENTS: "*" Indicates lost dosimeter. A portion of the Dose was estimated.

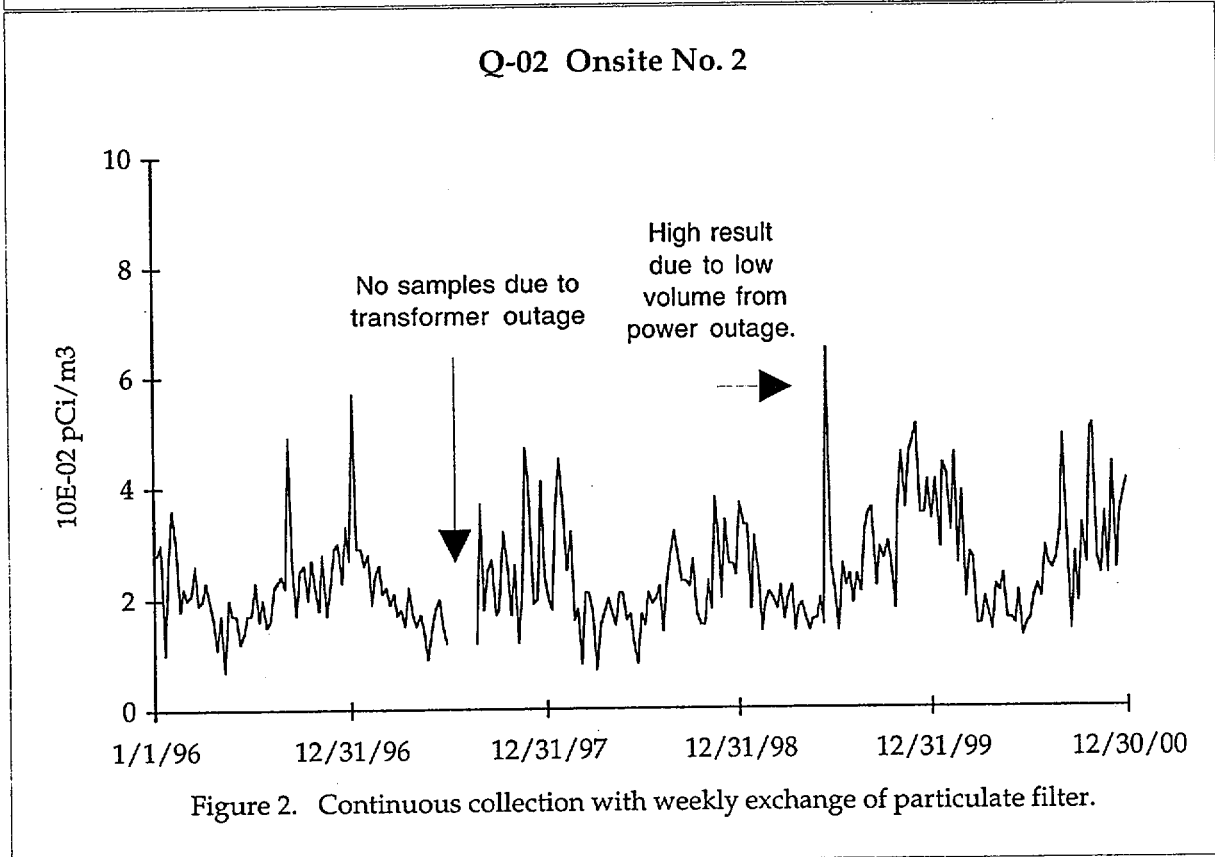
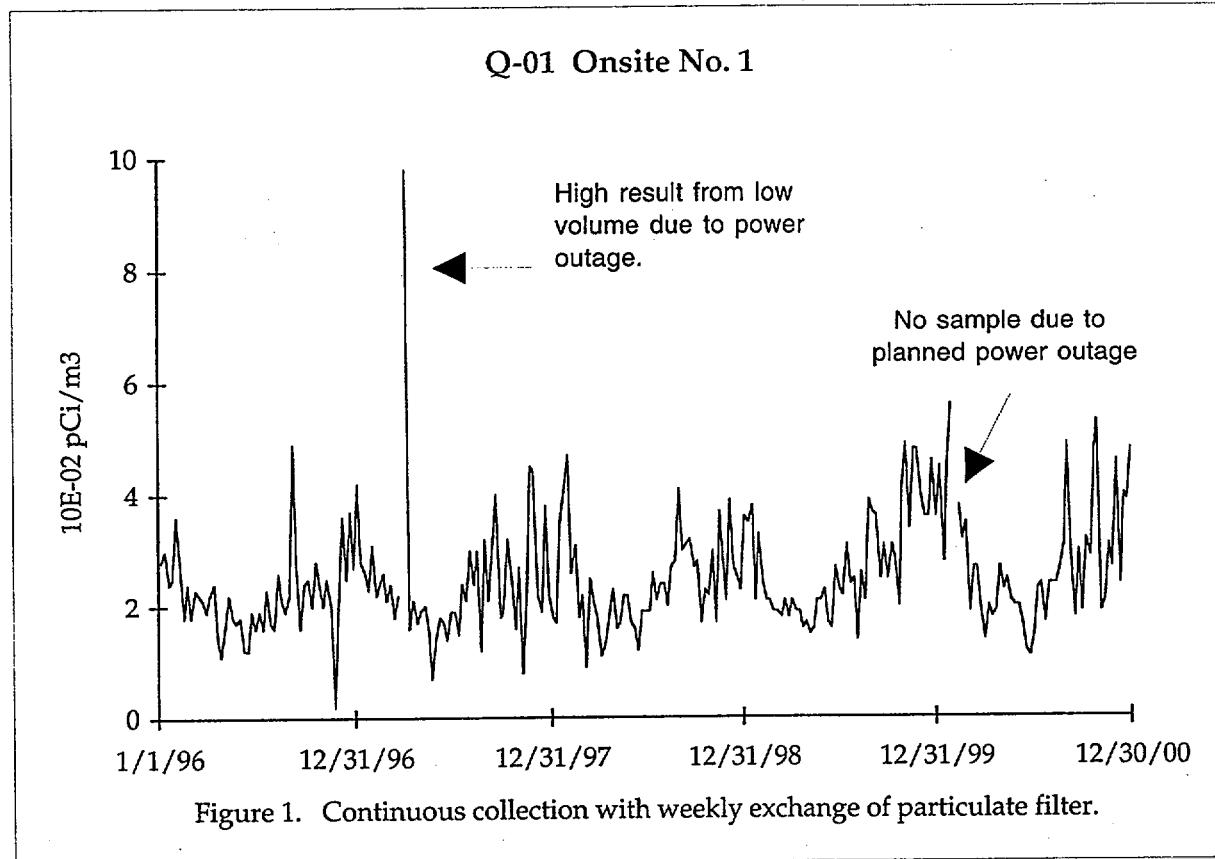
"#" Indicates edited dosimeter. The original Dose was replaced with an estimated value.

"n" (n=2..9) Indicates dose is average of n values. A "+" means more than 9 values.

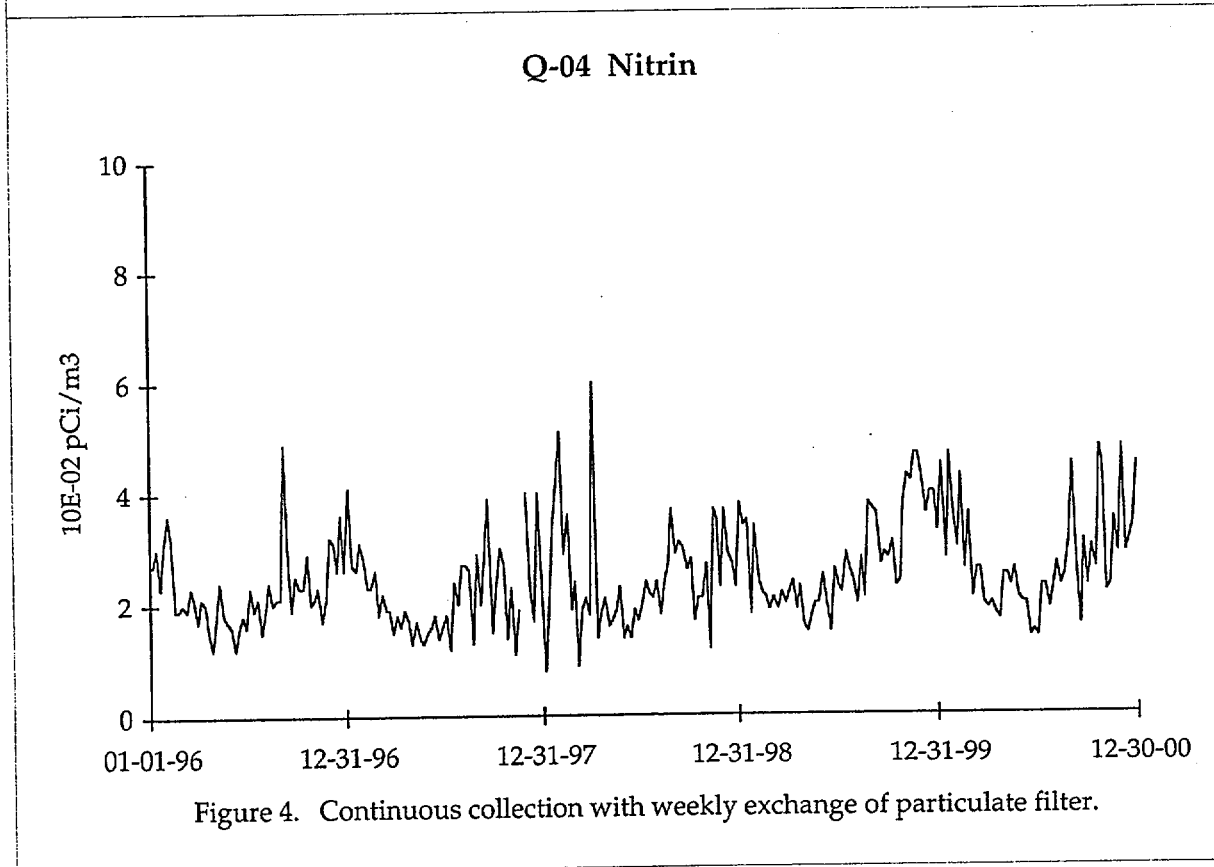
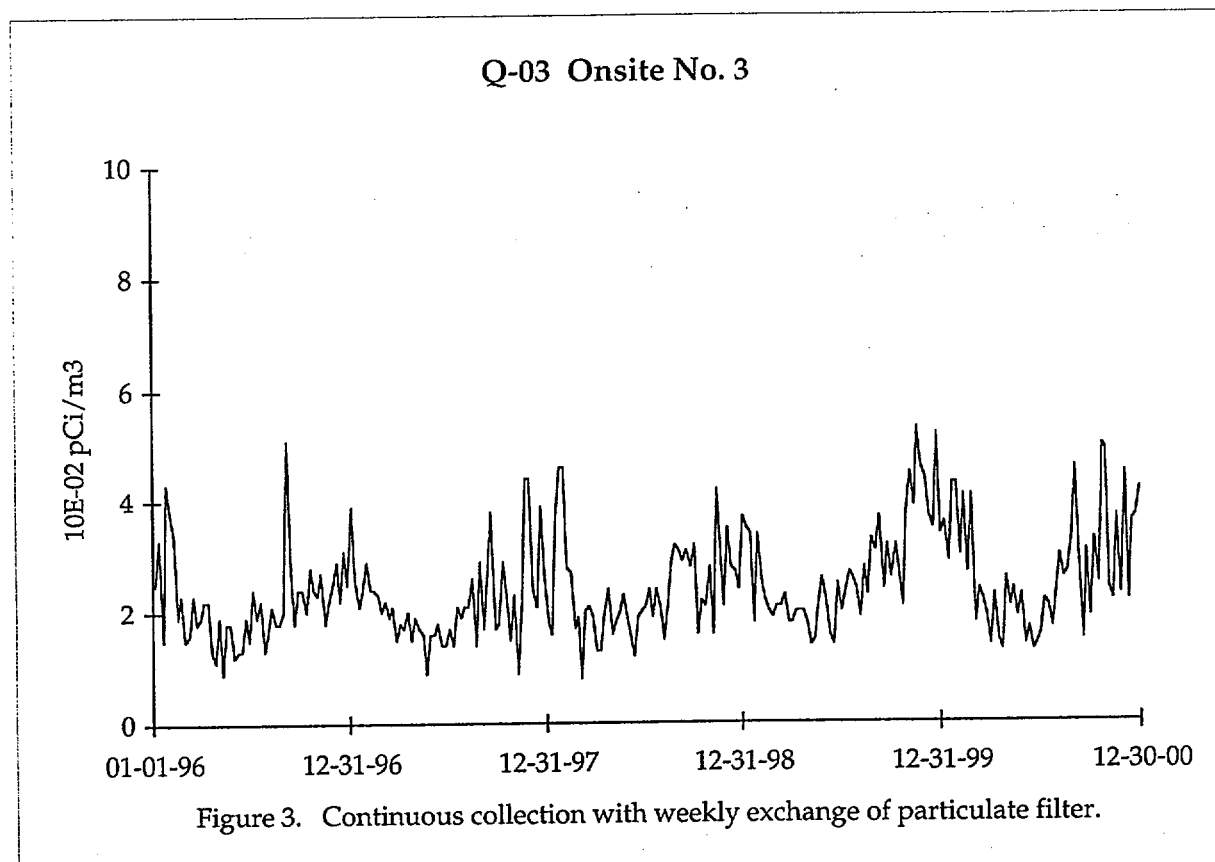
QUAD CITIES

5.0 GRAPHS OF DATA TRENDS

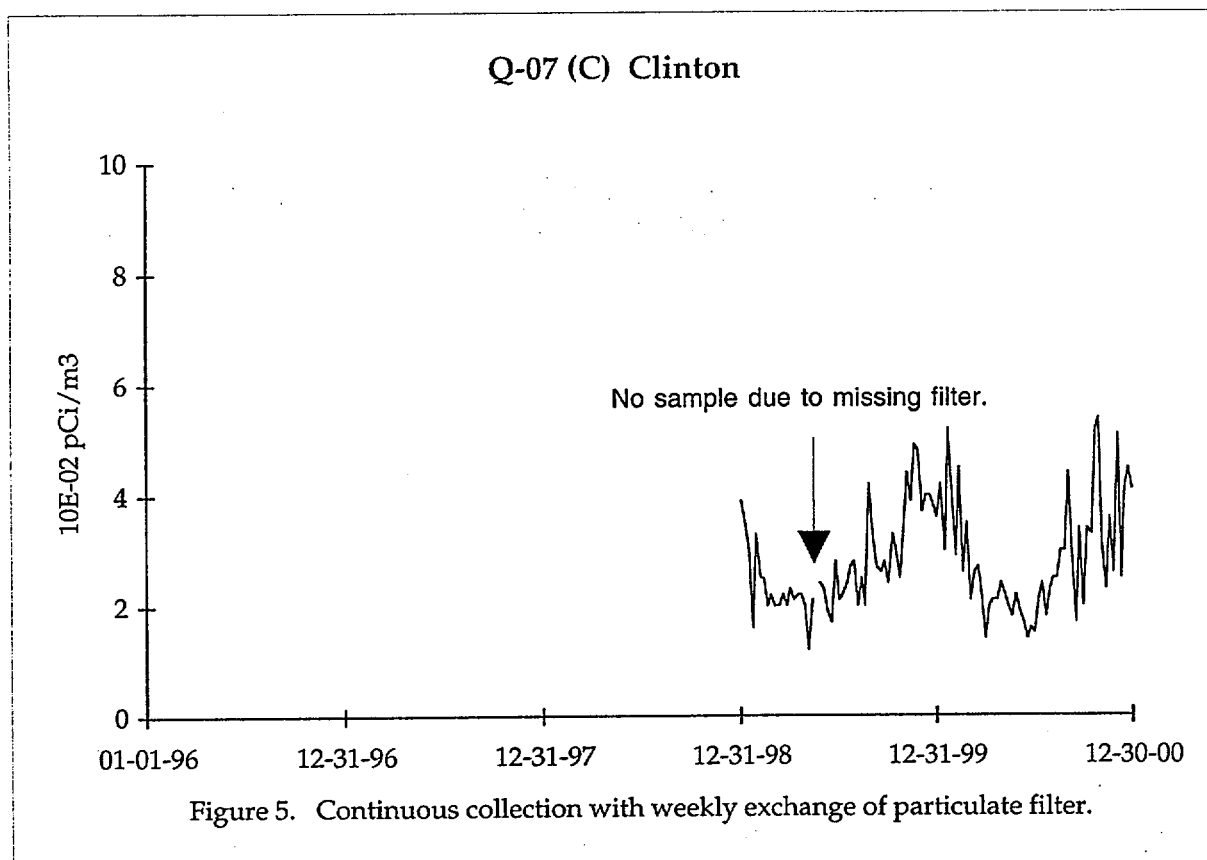
Air Particulates - Gross Beta



Air Particulates - Gross Beta



Air Particulates - Gross Beta



Surface Water-Gross Beta

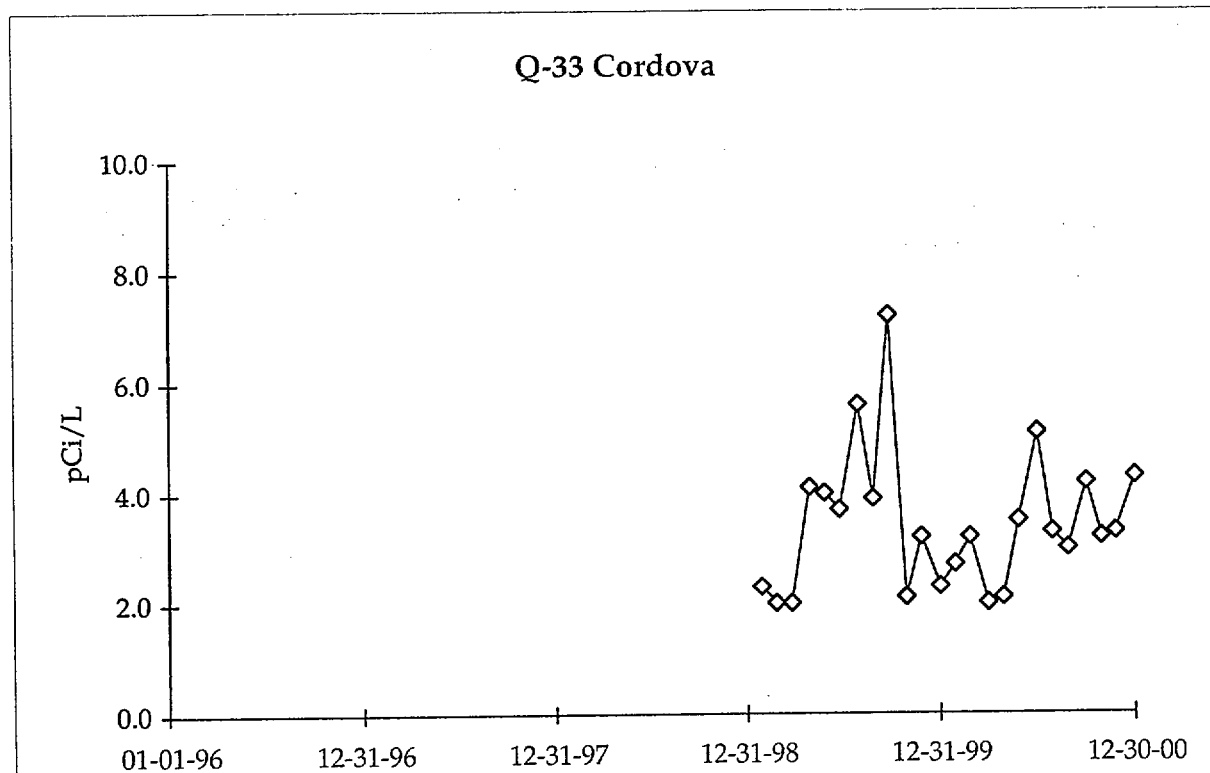


Figure 7. Monthly composites of weekly collections

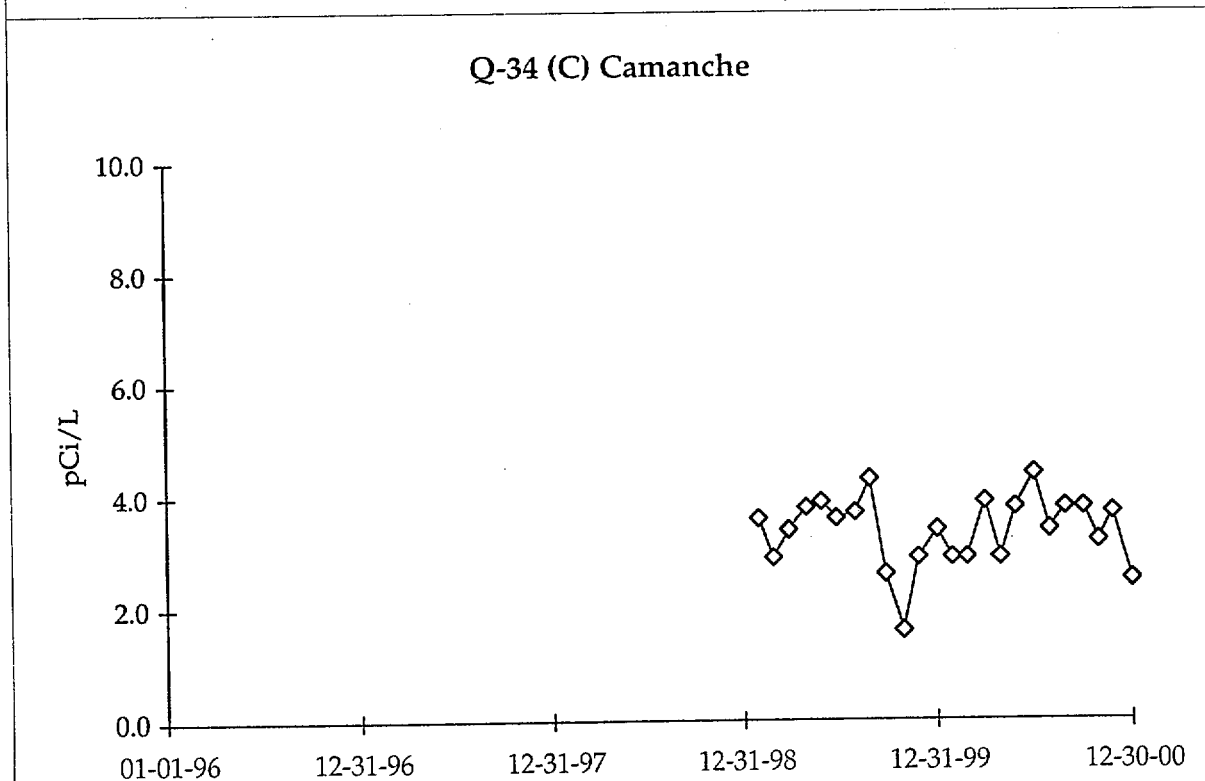
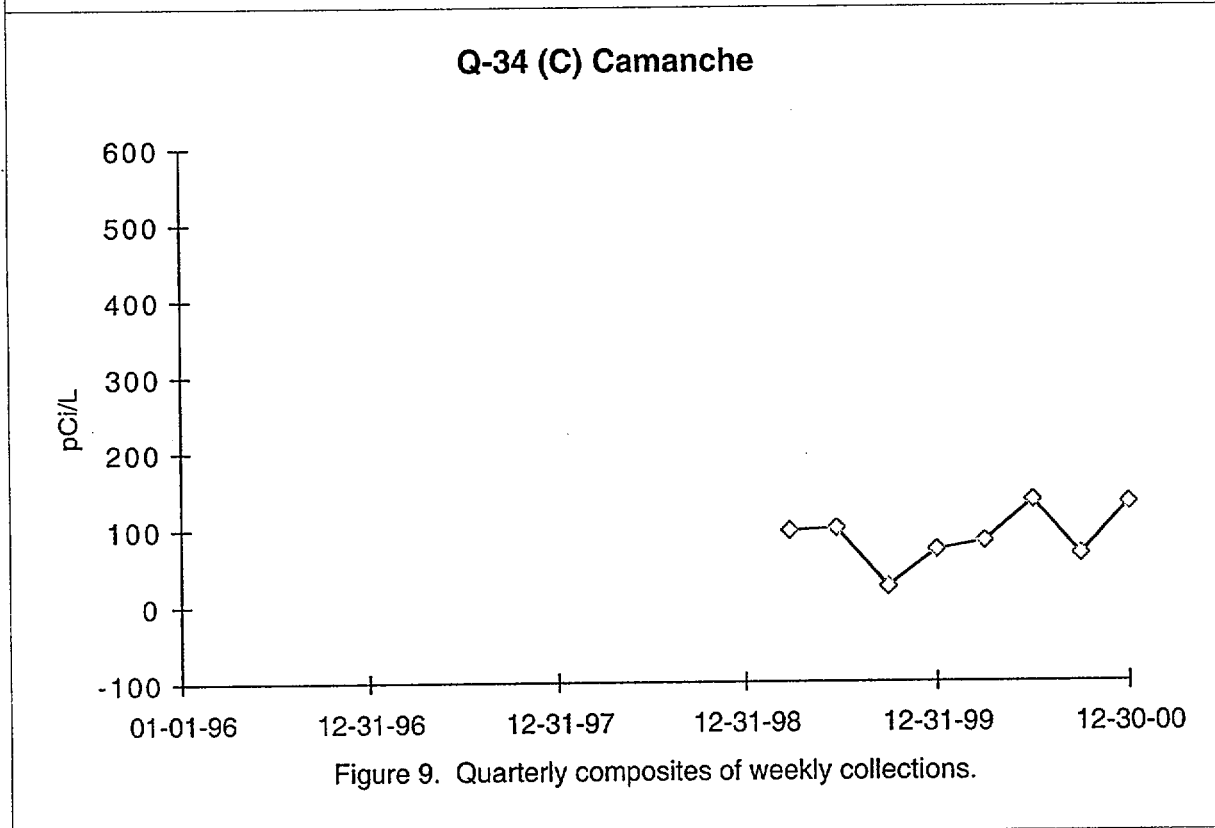
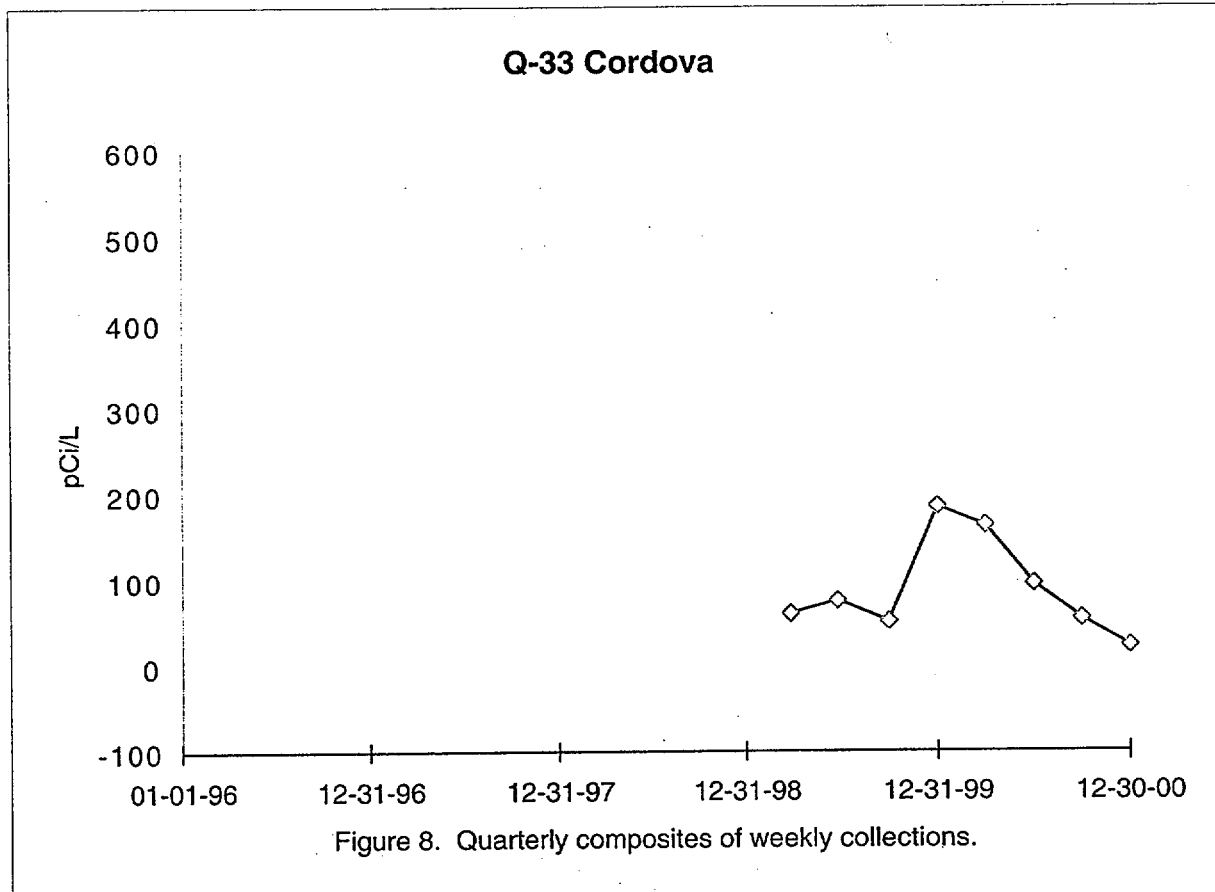
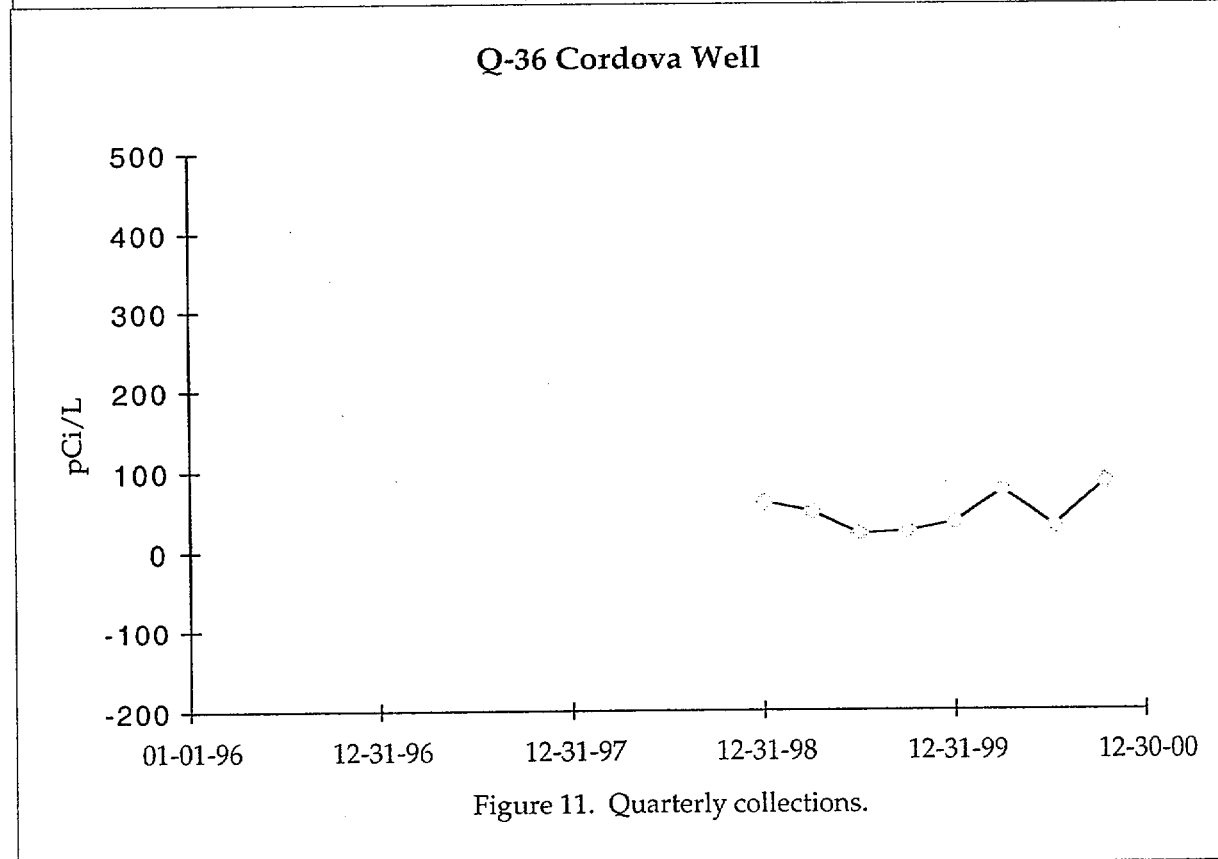
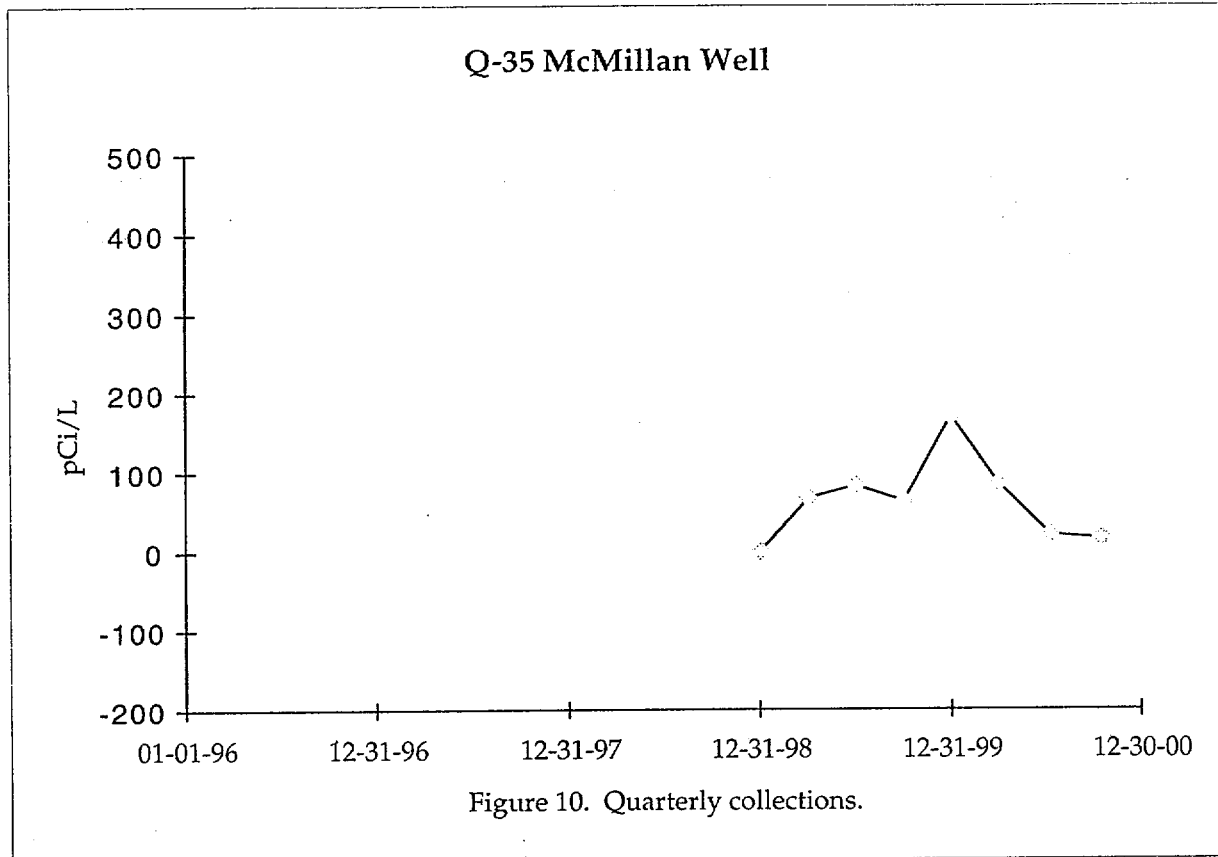


Figure 8. Monthly composites of weekly collections.

Surface Water-Tritium



Well Water-Tritium



APPENDIX IV

INTERLABORATORY COMPARISON PROGRAM RESULTS

NOTE: Environmental Incorporated Midwest Laboratory participates in intercomparison studies administered by Environmental Resource Associates which serve as a replacement for studies previously conducted by the U.S. EPA Environmental Monitoring Systems Laboratory, Las Vegas, Nevada. The results are reported annually in Appendix IV. Also reported are results of mixed analyte and Environmental Measurements Laboratory performance evaluation programs.

January, 2000 through December, 2000

Appendix V

Interlaboratory Comparison Program Results

Environmental Incorporated Midwest Laboratory (formerly Teledyne Brown Engineering Environmental Services, Midwest Laboratory, Teledyne Isotopes and Hazelton Environmental Services) has participated in interlaboratory comparison (crosscheck) programs since the formulation of its quality control program in December 1971. These programs are operated by agencies which supply environmental type samples (e.g., milk or water) containing concentrations of radionuclides known to the issuing agency but not to participant laboratories. The purpose of such a program is to provide an independent check on the laboratory's analytical procedures and to alert it to any possible problems.

Participant laboratories measure the concentration of specified radionuclides and report them to the issuing agency. Several months later, the agency reports the known values to the participant laboratories and specifies control limits. Results consistently higher or lower than the known values or outside the control limits indicate a need to check the instruments or procedures used.

The results in Table IV-1 were obtained through participation in the environmental sample crosscheck program for milk, water, air filters, and food samples through December 31, 1998. This program was conducted by Environmental Resource Associates and serves to replace studies formerly conducted by the U.S. Environmental Protection Agency Office of Research and Development, National Exposure Research Laboratory Characterization Research Division-Las Vegas, Nevada.

Table IV-2 lists results of the mixed analyte performance evaluation program.

Table IV-3 lists results of the Environmental Measurement Laboratory Quality Assessment Program.

Out-of-limit results are explained directly below the result.

Table IV-1. Interlaboratory Comparison Crosscheck program, Environmental Resource Associates (ERA), comparison of ERA and Environmental, Inc. Midwest Laboratory results.^a

Lab Code	Sample Type	Date Collected	Analysis	Concentration in pCi/L ^b		
				ERA Result ^c 1s, N=1	Control Limits	Laboratory Results ± 2 Sigma ^d
STW-863	Water	Jan, 2000	Gr. Alpha	25.4 ± 6.4	14.5 - 36.3	39.3 ± 5.2; 7.1
		The analysis was repeated and recalculated with Am-241 efficiency; result of reanalysis 29.32 ± 5.79 pCi/L. Internal spike program results do not indicate a problem.				
STW-863	Water	Jan, 2000	Gr. Beta	42.1 ± 4.2	33.4 - 50.8	40.7 ± 1.2; 6.4
STW-866	Water	Jan, 2000	Sr-89	22.5 ± 5.0	13.8 - 31.2	17.1 ± 2.2; 2.8
STW-866	Water	Jan, 2000	Sr-90	9.6 ± 5.0	0.9 - 18.3	8.1 ± 0.6; 1.0
STW-868	Water	Feb, 2000	Ra-226	8.3 ± 1.2	6.1 - 10.4	7.6 ± 0.5; 0.9
STW-868	Water	Feb, 2000	Ra-228	2.3 ± 0.6	1.3 - 3.2	5.6 ± 1.0; 1.1
		Result of reanalysis: 6.34 ± 0.94. Activity confirmed by gamma spectroscopy (6.00 ± 1.42 pCi/L).				
STW-868	Water	Feb, 2000	Uranium	6.1 ± 3.0	0.9 - 11.3	5.4 ± 0.2; 0.6
STW-869	Water	Mar, 2000	H-3	23800.0 ± 2380.0	19800.0 - 27800.0	23500.0 ± 306.0; 3210.6
STW-867	Water	Mar, 2000	Gr. Alpha	58.4 ± 5.8	33.3 - 83.5	83.6 ± 5.8; 11.7
		Results were recalculated with Am-241 efficiency; 57.80 ± 5.73 pCi/L. Refer to STW-863.				
STW-867	Water	Mar, 2000	Gr. Beta	16.8 ± 1.7	8.1 - 25.5	15.4 ± 0.9; 2.5
STW-876	Water	Mar, 2000	I-131	19.9 ± 2.0	14.7 - 25.1	18.7 ± 0.6; 2.0
STW-877	Water	Apr, 2000	Gr. Alpha	54.0 ± 13.5	30.8 - 77.2	52.3 ± 2.3; 6.8
STW-877	Water	Apr, 2000	Ra-226	18.6 ± 2.8	13.8 - 23.4	17.5 ± 1.1; 2.1
STW-877	Water	Apr, 2000	Ra-228	3.6 ± 0.9	2.0 - 5.1	3.7 ± 0.4; 0.6
STW-878	Water	Apr, 2000	Co-60	16.9 ± 5.0	8.2 - 25.6	19.2 ± 0.6; 2.8
STW-878	Water	Apr, 2000	Cs-134	86.4 ± 5.0	77.7 - 95.1	81.0 ± 1.3; 11.7
STW-878	Water	Apr, 2000	Cs-137	123.0 ± 6.2	112.0 - 134.0	119.0 ± 2.6; 17.3
STW-878	Water	Apr, 2000	Gr. Beta	289.0 ± 43.4	214.0 - 364.0	276.0 ± 9.6; 43.6
STW-878	Water	Apr, 2000	Sr-89	50.7 ± 5.0	42.0 - 59.4	32.3 ± 3.3; 4.6
STW-878	Water	Apr, 2000	Sr-90	32.8 ± 5.0	24.1 - 41.5	11.3 ± 1.0; 1.5
		An error was found in calculation. Result of recalculation: Sr-89, 55.5 ± 7.2 pCi/L / Sr-90, 30.7 ± 3.0 pCi/L. Results of reanalysis: Sr-89, 47.4 ± 14.5 pCi/L / Sr-90, 33.0 ± 1.35 pCi/L. Both results are within limits.				
STW-879	Water	Jun, 2000	Ba-133	25.5 ± 5.0	16.8 - 34.2	22.4 ± 2.1; 3.8

Table IV-1. Interlaboratory Comparison Crosscheck program, Environmental Resource Associates (ERA), comparison of ERA and Environmental, Inc. Midwest Laboratory results.^a

Lab Code	Sample Type	Date Collected	Analysis	Concentration in pCi/L ^b		
				ERA Result ^c 1s, N=1	Control Limits	Laboratory Results ± 2 Sigma ^d
STW-879	Water	Jun, 2000	Co-60	65.6 ± 5.0	56.9 - 74.3	69.9 ± 3.7; 10.7
STW-879	Water	Jun, 2000	Cs-134	13.8 ± 5.0	5.1 - 22.5	13.5 ± 0.8; 2.1
STW-879	Water	Jun, 2000	Cs-137	238.0 ± 11.9	217.0 - 259.0	232.0 ± 7.8; 34.3
STW-879	Water	Jun, 2000	Zn-65	54.6 ± 5.5	45.3 - 63.9	50.9 ± 3.8; 8.2
STW-880	Water	Jun, 2000	Ra-226	3.0 ± 0.5	2.2 - 3.8	2.8 ± 0.2; 0.3
STW-880	Water	Jun, 2000	Ra-228	13.0 ± 3.3	7.4 - 18.6	10.0 ± 0.9; 1.4
STW-880	Water	Jun, 2000	Uranium	63.4 ± 6.3	52.6 - 74.2	57.0 ± 4.4; 7.2
STW-883	Water	Jul, 2000	Gr. Alpha	7.2 ± 5.0	0.0 - 15.9	6.9 ± 1.1; 1.4
STW-883	Water	Jul, 2000	Gr. Beta	87.5 ± 10.0	70.2 - 105.0	88.8 ± 9.8; 16.8
STW-884	Water	Aug, 2000	H-3	8320.0 ± 832.0	6910.0 - 9730.0	8740.0 ± 174.0; 1201.3
STW-891	Water	Sep, 2000	Ra-226	18.9 ± 2.8	14.0 - 23.8	17.9 ± 1.3; 2.2
STW-891	Water	Sep, 2000	Ra-228	6.2 ± 1.6	3.5 - 8.8	5.7 ± 0.5; 0.8
STW-891	Water	Sep, 2000	Uranium	11.9 ± 3.0	6.7 - 17.1	10.3 ± 0.1; 1.0
STW-892	Water	Oct, 2000	I-131	15.9 ± 1.6	10.7 - 21.1	16.9 ± 0.3; 1.7
STW-892	Water	Oct, 2000	I-131(g)	15.9 ± 1.6	10.7 - 21.1	17.1 ± 5.4; 6.0
STW-893	Water	Oct, 2000	Gr. Alpha	74.4 ± 18.6	42.2 - 107.0	66.3 ± 5.3; 9.7
STW-893	Water	Oct, 2000	Ra-226	10.5 ± 1.6	7.8 - 13.2	10.1 ± 1.0; 1.4
STW-893	Water	Oct, 2000	Ra-228	19.4 ± 4.9	11.0 - 27.8	21.2 ± 0.5; 2.2
STW-893	Water	Oct, 2000	Uranium	44.5 ± 4.5	36.8 - 52.2	41.4 ± 1.9; 4.6
STW-894	Water	Oct, 2000	Co-60	91.1 ± 5.0	82.4 - 99.8	93.4 ± 1.6; 13.5
STW-894	Water	Oct, 2000	Cs-134	59.8 ± 5.0	51.1 - 68.5	54.8 ± 0.3; 7.9
STW-894	Water	Oct, 2000	Cs-137	45.0 ± 5.0	36.3 - 53.7	45.5 ± 2.3; 7.0
STW-894	Water	Oct, 2000	Gr. Beta	256.0 ± 38.4	189.0 - 323.0	209.0 ± 7.9; 33.1
STW-894	Water	Oct, 2000	Sr-89	41.3 ± 5.0	32.6 - 50.0	32.8 ± 3.0; 4.4
STW-894	Water	Oct, 2000	Sr-90	18.0 ± 5.0	9.3 - 26.7	16.0 ± 2.4; 2.9
STW-895	Water	Nov, 2000	Gr. Alpha	60.3 ± 15.1	34.4 - 86.2	50.3 ± 2.6; 6.7
STW-895	Water	Nov, 2000	Gr. Beta	25.5 ± 5.0	16.8 - 34.2	28.6 ± 1.3; 4.6

Table IV-1. Interlaboratory Comparison Crosscheck program, Environmental Resource Associates (ERA), comparison of ERA and Environmental, Inc. Midwest Laboratory results.^a

Lab Code	Sample Type	Date Collected	Analysis	Concentration in pCi/L ^b		
				ERA Result ^c 1s, N=1	Control Limits	Laboratory Results ± 2 Sigma ^d
STW-896	Water	Nov, 2000	Ba-133	82.2 ± 8.2	68.0 - 96.4	78.0 ± 2.0; 11.4
STW-896	Water	Nov, 2000	Co-60	27.8 ± 5.0	19.1 - 36.5	30.8 ± 1.7; 4.7
STW-896	Water	Nov, 2000	Cs-134	76.0 ± 5.0	67.3 - 84.7	67.2 ± 3.3; 10.2
The mean value for Cs-134 of all participating laboratories was 70.7 pCi/L. Other gamma emitters are within limits, the counting efficiency is not suspect. Library values were reviewed and found to be correct.						
STW-896	Water	Nov, 2000	Cs-137	106.0 ± 5.3	96.8 - 115.0	109.0 ± 1.0; 15.7
STW-896	Water	Nov, 2000	Zn-65	79.0 ± 7.9	65.3 - 92.7	81.5 ± 7.4; 13.9

^a Results obtained by Environmental, Inc., Midwest Laboratory as a participant in the environmental samples crosscheck program operated by Environmental Resources Associates (ERA).

^b All results are in pCi/L, except for elemental potassium (K) data in milk, which are in mg/L; air filter samples which are in pCi/Filter.

^c Results are presented as the known values, expected laboratory precision (1 sigma, 1 determination) and control limits as provided by ERA.

^d Unless otherwise indicated, results are given as the mean ± 2 standard deviations for three determinations. The numbers after the semi-colon are the Total Propagated Uncertainty of the result.

Table IV-2. Department of Energy's Mixed Analyte Performance Evaluation Program (MAPEP) ^a.

Lab Code	Sample Type	Date Collected	Analysis	Concentration in Bq/kg ^b		
				MAPEP Result ^d 1s, N=1	Control Limits	Laboratory Results ±Standard Deviation ^c
STSO-882	SOIL	Jan, 2000	Am-241	61.1	42.8 - 79.4	64.9 ± 6.5; 9.2
STSO-882	SOIL	Jan, 2000	Co-57	949.0	664.3 - 1,233.7	721.1 ± 83.8; 110.6
The MAPEP soil sample (STSO-882), as received, did not closely match a standard gamma geometry. The results for gamma-emitting isotopes are reanalyses, with a reduced sample size.						
STSO-882	SOIL	Jan, 2000	Co-60	1,180.0	826.0 - 1,534.0	1,264.4 ± 78.6; 148.9
STSO-882	SOIL	Jan, 2000	Cs-134	1,047.0	732.9 - 1,361.1	969.3 ± 76.9; 123.7
STSO-882	SOIL	Jan, 2000	Cs-137	930.0	651.0 - 1,209.0	944.0 ± 92.0; 131.8
STSO-882	SOIL	Jan, 2000	K-40	652.0	456.4 - 847.6	811.7 ± 79.9; 113.9
STSO-882	SOIL	Jan, 2000	Mn-54	1,023.0	716.1 - 1,329.9	1,103.3 ± 64.2; 127.6
STSO-882	SOIL	Jan, 2000	Ni-63	960.0	672.0 - 1,248.0	711.0 ± 71.1; 100.6
STSO-882	SOIL	Jan, 2000	Pu-239/40	74.4	52.1 - 96.7	67.9 ± 6.8; 9.6
STSO-882	SOIL	Jan, 2000	Sr-90	304.0	212.8 - 395.2	345.0 ± 34.5; 48.8
STSO-882	SOIL	Jan, 2000	U-233/4	90.0	63.0 - 117.0	62.9 ± 6.3; 8.9
Incomplete dissolution of the sample is suspected.						
Results of reanalysis: U-233/234, 67.3 ± 3.3 pCi/g, U-238, 68.1 ± 8.9 pCi/g.						
STSO-882	SOIL	Jan, 2000	U-238	93.0	65.1 - 120.9	63.2 ± 6.3; 8.9
STSO-882	SOIL	Jan, 2000	Zn-65	1,540.0	1,078.0 - 2,002.0	1,544.3 ± 61.5; 166.2

^a Results obtained by Environmental Inc., Midwest Laboratory as a participant in the Department of Energy's Mixed Analyte Performance Evaluation Program, Idaho Operations office, Idaho Falls, Idaho.

^b All results are in Bq/kg or Bq/L as requested by the Department of Energy.

^c Unless otherwise indicated, laboratory results are given as the mean ± 1 standard deviations for three determinations.

^d Results are presented as the known values, expected laboratory precision (1 sigma, 1 determination), and control limits as defined by the MAPEP.

Table IV-3. Environmental Measurements Laboratory Quality Assessment Program (EML)^a.

Lab Code	Sample Type	Date Collected	Analysis	Concentration in Bq/L ^b		
				Laboratory Result ^c	EML Result ^d	Control Limits ^e
STSO-870	Soil	Mar, 2000	Ac-228	98.3 ± 7.1; 12.1	97.6 ± 4.2	0.8 - 1.8
STSO-870	Soil	Mar, 2000	Bi-212	98.5 ± 15.1; 18.0	106.0 ± 7.0	0.4 - 1.2
STSO-870	Soil	Mar, 2000	Bi-214	88.0 ± 3.8; 9.6	86.7 ± 3.8	0.8 - 1.4
STSO-870	Soil	Mar, 2000	Cs-137	324.0 ± 5.0; 32.8	339.0 ± 9.3	0.8 - 1.3
STSO-870	Soil	Mar, 2000	K-40	872.0 ± 34.0; 93.6	811.0 ± 29.0	0.8 - 1.5
STSO-870	Soil	Mar, 2000	Pb-212	93.7 ± 2.7; 9.8	97.3 ± 4.6	0.7 - 1.3
STSO-870	Soil	Mar, 2000	Pb-214	100.1 ± 3.7; 10.7	86.5 ± 6.8	0.7 - 1.5
STSO-870	Soil	Mar, 2000	Pu-238	19.8 ± 3.0; 3.6	18.6 ± 0.5	0.5 - 2.8
STSO-870	Soil	Mar, 2000	Pu-239/40	8.1 ± 1.7; 1.9	7.0 ± 0.3	0.7 - 1.7
STSO-870	Soil	Mar, 2000	Sr-90	13.6 ± 3.1; 3.4	20.2 ± 0.2	0.6 - 3.7
STVE-871	Vegetation	Mar, 2000	Am-241	9.8 ± 0.9; 1.3	10.4 ± 1.4	0.7 - 2.7
STVE-871	Vegetation	Mar, 2000	Co-60	46.5 ± 2.1; 6.7	52.8 ± 1.0	0.7 - 1.5
STVE-871	Vegetation	Mar, 2000	Cs-137	1,872.0 ± 46.0; 258.7	1,380.0 ± 20.0	0.8 - 1.4
STVE-871	Vegetation	Mar, 2000	K-40	506.4 ± 28.0; 57.9	521.0 ± 20.0	0.8 - 1.4
STVE-871	Vegetation	Mar, 2000	Pu-239/40	14.3 ± 1.5; 2.1	15.5 ± 2.1	0.7 - 1.6
STVE-871	Vegetation	Mar, 2000	Sr-90	1,198.0 ± 85.0; 146.9	1,780.0 ± 17.8	0.5 - 1.3
STAP-872	Air Filter	Mar, 2000	Co-57	5.9 ± 0.1; 0.6	5.3 ± 0.2	0.7 - 1.4
STAP-872	Air Filter	Mar, 2000	Co-60	5.9 ± 0.1; 0.6	5.3 ± 0.3	0.8 - 1.3
STAP-872	Air Filter	Mar, 2000	Cs-137	7.5 ± 0.1; 0.8	6.1 ± 0.3	0.7 - 1.4
STAP-872	Air Filter	Mar, 2000	Gr. Alpha	3.3 ± 0.1; 0.3	3.0 ± 0.3	0.5 - 1.6
STAP-872	Air Filter	Mar, 2000	Gr. Beta	2.7 ± 0.1; 0.3	2.4 ± 0.2	0.7 - 1.7
STAP-872	Air Filter	Mar, 2000	Mn-54	31.8 ± 0.3; 3.2	27.2 ± 0.8	0.8 - 1.3
STAP-872	Air Filter	Mar, 2000	Pu-238	0.1 ± 0.0; 0.0	0.1 ± 0.0	0.7 - 1.4
STAP-872	Air Filter	Mar, 2000	Pu-239/40	0.1 ± 0.0; 0.0	0.1 ± 0.0	0.8 - 1.4
STAP-872	Air Filter	Mar, 2000	Ru-106	3.5 ± 1.0; 1.1	2.0 ± 1.9	0.6 - 1.3
Result within activity ± error margin.						
STAP-872	Air Filter	Mar, 2000	Sr-90	0.3 ± 0.2; 0.2	0.2 ± 0.0	0.6 - 1.9
STAP-872	Air Filter	Mar, 2000	Uranium	0.1 ± 0.0; 0.0	0.1 ± 0.0	0.8 - 3.4
STW-874	Water	Mar, 2000	Am-241	1.7 ± 0.2; 0.3	2.0 ± 0.2	0.8 - 1.5
STW-874	Water	Mar, 2000	Co-60	51.0 ± 1.2; 7.4	48.9 ± 1.8	0.8 - 1.2
STW-874	Water	Mar, 2000	Cs-137	108.6 ± 1.8; 15.7	103.0 ± 4.0	0.8 - 1.3
STW-874	Water	Mar, 2000	Fe-55	33.0 ± 1.2; 3.5	33.1 ± 0.7	0.4 - 1.5
STW-874	Water	Mar, 2000	Gr. Alpha	1,217.0 ± 35.0; 152.5	1,700.0 ± 170.0	0.6 - 1.3
STW-874	Water	Mar, 2000	Gr. Beta	792.0 ± 25.0; 124.5	690.0 ± 70.0	0.6 - 1.5
STW-874	Water	Mar, 2000	H-3	147.0 ± 26.0; 32.8	79.4 ± 2.5	0.7 - 1.8
Analysis was repeated; result of reanalysis; 97.5 ± 11.6 Bq/L.						
STW-874	Water	Mar, 2000	Ni-63	101.0 ± 6.0; 11.7	112.0 ± 11.0	0.3 - 1.8
STW-874	Water	Mar, 2000	Pu-238	0.8 ± 0.2; 0.2	0.9 ± 0.0	0.8 - 1.3

Table IV-3. Environmental Measurements Laboratory Quality Assessment Program (EML)^a.

Lab Code	Sample Type	Date Collected	Analysis	Concentration in Bq/L ^b		Control Limits ^e
				Laboratory Result ^c	EML Result ^d	
STW-874	Water	Mar, 2000	Pu-239/40	1.0 ± 0.1; 0.1	0.9 ± 0.0	0.8 - 1.4
STW-874	Water	Mar, 2000	Sr-90	4.5 ± 1.0; 1.1	3.4 ± 0.1	0.8 - 1.5
STW-874	Water	Mar, 2000	Uranium	0.3 ± 0.0; 0.0	1.0 ± 0.1	0.7 - 1.4
Result reported was for U-234. Result for U (total); 0.58 ± 0.02 pCi/L.						
STSO-885	Soil	Sep, 2000	Ac-228	78.0 ± 1.5; 7.9	80.2 ± 3.6	0.8 - 1.5
STSO-885	Soil	Sep, 2000	Bi-212	73.0 ± 3.3; 8.0	80.5 ± 6.6	0.5 - 1.2
STSO-885	Soil	Sep, 2000	Bi-214	91.0 ± 4.0; 9.9	83.3 ± 4.2	0.8 - 1.5
STSO-885	Soil	Sep, 2000	Cs-137	925.7 ± 14.2; 93.7	1,020.0 ± 51.0	0.8 - 1.3
STSO-885	Soil	Sep, 2000	K-40	713.6 ± 7.1; 71.7	713.0 ± 38.0	0.8 - 1.4
STSO-885	Soil	Sep, 2000	Pb-212	66.1 ± 4.3; 7.9	79.3 ± 4.3	0.7 - 1.4
STSO-885	Soil	Sep, 2000	Pb-214	100.1 ± 3.7; 10.7	86.3 ± 4.3	0.8 - 1.5
STSO-885	Soil	Sep, 2000	Pu-239/40	18.4 ± 0.4; 1.9	16.8 ± 0.3	0.7 - 1.3
STSO-885	Soil	Sep, 2000	Sr-90	39.9 ± 5.3; 6.6	50.4 ± 2.0	0.6 - 3.9
STSO-885	Soil	Sep, 2000	Th-234	154.7 ± 9.3; 18.1	148.0 ± 10.0	0.7 - 2.4
STSO-885	Soil	Sep, 2000	Uranium	254.3 ± 13.0; 28.6	327.0 ± 11.0	0.6 - 1.4
STW-886	Water	Sep, 2000	Am-241	1.3 ± 0.2; 0.2	1.2 ± 0.0	0.8 - 1.5
STW-886	Water	Sep, 2000	Co-60	71.9 ± 7.2; 12.6	73.7 ± 2.9	0.8 - 1.2
STW-886	Water	Sep, 2000	Cs-137	62.7 ± 6.3; 11.0	67.0 ± 3.5	0.8 - 1.2
STW-886	Water	Sep, 2000	H-3	92.3 ± 8.9; 15.4	91.3 ± 0.3	0.7 - 2.3
STW-886	Water	Sep, 2000	Pu-238	0.7 ± 0.1; 0.1	0.8 ± 0.0	0.7 - 1.2
STW-886	Water	Sep, 2000	Pu-239/40	0.6 ± 0.1; 0.1	0.6 ± 1.0	0.8 - 1.3
STW-886	Water	Sep, 2000	Sr-90	4.6 ± 0.4; 0.6	4.5 ± 0.1	0.6 - 1.5
STW-886	Water	Sep, 2000	Uranium	0.8 ± 0.1; 0.1	0.9 ± 0.0	0.7 - 1.4
STW-887	Water	Sep, 2000	Gr. Alpha	1,113.7 ± 17.9; 137.0	1,070.0 ± 100.0	0.6 - 1.3
STW-887	Water	Sep, 2000	Gr. Beta	1,129.4 ± 16.7; 174.7	950.0 ± 90.0	0.6 - 1.5
STAP-888	Air Filter	Sep, 2000	Am-241	0.1 ± 0.0; 0.0	0.0 ± 0.0	0.7 - 2.4
STAP-888	Air Filter	Sep, 2000	Co-57	16.5 ± 0.6; 1.8	14.5 ± 0.5	0.7 - 1.4
STAP-888	Air Filter	Sep, 2000	Co-60	9.2 ± 0.4; 1.0	8.4 ± 0.5	0.8 - 1.3
STAP-888	Air Filter	Sep, 2000	Cs-137	8.8 ± 0.5; 1.0	7.4 ± 0.4	0.8 - 1.4
STAP-888	Air Filter	Sep, 2000	Mn-54	50.2 ± 2.3; 5.5	43.2 ± 1.3	0.8 - 1.4
STAP-888	Air Filter	Sep, 2000	Pu-238	0.0 ± 0.0; 0.0	0.0 ± 0.0	0.7 - 1.4
STAP-888	Air Filter	Sep, 2000	Pu-239/40	0.1 ± 0.0; 0.0	0.1 ± 0.0	0.7 - 1.3
STAP-888	Air Filter	Sep, 2000	Sr-90	3.3 ± 0.1; 0.3	1.6 ± 0.1	0.6 - 2.1
STAP-888	Air Filter	Sep, 2000	U-233/4	0.0 ± 0.0; 0.0	0.0 ± 0.0	0.8 - 1.9
STAP-888	Air Filter	Sep, 2000	U-238	0.0 ± 0.0; 0.0	0.0 ± 0.0	0.8 - 1.6
Result within activity ± error margin.						
STAP-888	Air Filter	Sep, 2000	Uranium	0.1 ± 0.0; 0.0	0.1 ± 0.0	0.8 - 2.5
STAP-889	Air Filter	Sep, 2000	Gr. Alpha	2.8 ± 0.0; 0.3	2.4 ± 0.2	0.6 - 1.5

Table IV-3. Environmental Measurements Laboratory Quality Assessment Program (EML)^a.

Lab Code	Sample Type	Date Collected	Analysis	Concentration in Bq/L ^b		Control Limits ^e
				Laboratory Result ^c	EML Result ^d	
STAP-889	Air Filter	Sep, 2000	Gr. Beta	2.1 ± 0.0; 0.2	1.5 ± 0.2	0.8 - 1.5
STVE-890	Vegetation	Sep, 2000	Am-241	5.9 ± 1.2; 1.3	5.6 ± 0.7	0.7 - 2.3
STVE-890	Vegetation	Sep, 2000	Cm-244	3.2 ± 0.1; 0.3	3.6 ± 0.3	0.6 - 1.6
STVE-890	Vegetation	Sep, 2000	Co-60	29.4 ± 0.4; 4.0	32.8 ± 1.3	0.8 - 1.5
STVE-890	Vegetation	Sep, 2000	Cs-137	739.3 ± 23.0; 103.1	867.0 ± 44.0	0.8 - 1.4
STVE-890	Vegetation	Sep, 2000	K-40	597.5 ± 49.3; 77.5	639.0 ± 34.0	0.8 - 1.4
STVE-890	Vegetation	Sep, 2000	Pu-239/40	4.5 ± 0.2; 0.5	9.6 ± 0.8	0.7 - 1.5
No reason for deviation was found with original result. The result of reanalysis; 12.1 ± 1.1 Bq/kg.						
STVE-890	Vegetation	Sep, 2000	Sr-90	1,201.5 ± 117.3; 167.9	1,150.0 ± 94.0	0.5 - 1.2

^a The Environmental Measurements Laboratory provides the following nuclear species : Air Filters, Soil, Tissue, Vegetation and Water. Environmental, Inc. does not participate in the Tissue program.

^b Results are reported in Bq/L⁻¹ with the following exceptions: Air Filter results are reported in Bq/Filter⁻¹, Soil results are reported in Bq/Kg⁻¹, Vegetation results are reported in Bq/Kg⁻¹. The results of elemental Uranium are reported in ug/filter⁻¹, g, or ml.

^c Laboratory results are reported as the mean of three determinations ± standard deviation; total propagated uncertainty.

^d The EML result listed is the mean of replicate determinations for each nuclide ± the standard error of the mean.

^e The control limits are reported by EML as the ratio of Reported Value / EML value and are established from percentiles of historic data distributions (1982-1992). The evaluation of this historic data and the development of the control limits is presented in DOE report EML-564.